References

- Abrams, P. A. 1990. The effects of adaptive behavior on the type-2 functional response. Ecology 71:877-885.
- Abrams, P. A., B. A. Menge, G. G. Mittelbach, D. Spiller, and P. Yodzis. 1996. The role of indirect effects in food webs. Pages 371-395 in G. A. Polis and K. O. Winemiller, editors, Food webs: integration of patterns and dynamics. Chapman and Hall, New York, New York, USA.
- Adams, D. C., J. Gurevitch, and M. S. Rosenberg. 1997. Resampling tests for meta-analysis of ecological data. Ecology 78:1277-1283.
- Agresti, A. 1990. Categorical Data Analysis. Wiley, New York, New York, USA.
- Aldrich, J. H., and F. D. Nelson. 1984. Linear probability, logit, and probit models. Sage University Paper Series on Quantitative Applications in the Social Sciences 07-045. Sage, Thousand Oaks, California, USA.
- Allison, P. D. 1995. Survival Analysis using the SAS System. SAS Institute, Inc., Cary, North Carolina, USA.
- Antonovics, J. 1976. The input from population genetics: The new ecological genetics. Systematic Botany 1:233-245.
- Antonovics, J., and N. L. Fowler. 1985. Analysis of frequency and density effects on growth in mixtures of *Salvia splendens* and *Linum grandiflorum* using hexagonal fan designs. Journal of Ecology 73:219-234.
- Arnold, S. J. 1972. Species densities of predators and their prey. American Naturalist 106:220-236.
- Arnqvist, G., and D. Wooster. 1995. Meta-analysis: synthesizing research findings in ecology and evolution. Trends in Ecology and Evolution 10:236-240.
- Austin, M. P. 1990. Community theory and competition in vegetation. Pages 215-239 in J. B. Grace and D. Tilman, editors, Perspectives on Plant Competition. Academic Press, San Diego, California, USA.
- Ayala, F. J., M. E. Gilpin, and J. G. Ehrenfeld. 1973. Competition between species: Theoretical models and experimental tests. Theoretical Population Biology 4:331-356.
- Ayres, M. P., and D. L. Thomas. 1990. Alternative formulations of the mixed-model ANOVA applied to quantitative genetics. Evolution 44:221-226.

- Bailer, A. J., and J. T. Oris. 1994. Assessing toxicity of pollutants in aquatic systems. Pages 25-40 in N. Lange, L. Ryan, L. Billard, D. Brillinger, L. Conquest, and J. Greenhouse, editors, Case Studies in Biometry. Wiley, New York, New York, USA.
- Baird, D., and R. Mead. 1991. The empirical efficiency and validity of two neighbour models. Biometrics 47:1473-1487.
- Baker, H. G. 1983. An outline of the history of anthecology, or pollination biology. Pages 7-28 in L. Real, editor, Pollination Biology. Academic Press, Orlando, Florida, USA.
- Bard, Y. 1974. Nonlinear Parameter Estimation. Academic Press, New York, New York, USA.
- Barker, H. R., and B. M. Barker, editors. 1984. Multivariate Analysis of Variance (MANOVA). University of Alabama Press, Tuscaloosa, Alabama, USA.
- Barlow, R. E., D. J. Bartholomew, J. M. Bremer, and H. D. Brunk. 1972. Statistical Inference Under Order Restrictions. Wiley, New York, New York, USA.
- Barnett, V. 1976. The ordering of multivariate data. Journal of the Royal Statistical Society, Series A 139:318-354.
- Barnett, V. 1999. Comparative Statistical Inference, 3rd ed. John Wiley & Sons, London, UK.
- Bartlett, M. S. 1935. Contingency table interactions. Journal of the Royal Statistical Society (Supplement) 2:248-252.
- Bartlett, M. S. 1978. Nearest neighbor models in the analysis of field experiments with large blocks. Journal of the Royal Statistical Society, Series B 40:147-174.
- Bautista, L. M., J. C. Alonso, and J. A. Alonso. 1992. A 20-year study of wintering common crane fluctuations using time series analysis. Journal of Wildlife Management 56:563-572.
- Bayes, T. 1763. An essay towards solving a problem in the doctrine of chances. Philosophical Transactions of the Royal Society 53:370-418.
- Becher, H. 1993. Bootstrap hypothesis testing procedures. Biometrics 49:1268-1272.
- Becker, R. A., J. M. Chambers, and A. R. Wilks. 1988. The New S Language. Wadsworth and Brooks, California, USA.
- Benditt, J. 1992. Women in science, 1st annual survey. Science 255:1363-1388.
- Bennington, C. C., and J. B. McGraw. 1995. Natural selection and ecotypic differentiation in *Impatiens pallida*. Ecological Monographs 65:303-324.
- Bentler, P. M. 1985. Theory and Implementation of EQS: A Structural Equations Program. BMDP Statistical Software, Los Angeles, California, USA.

- Berger, J. O. 1985. Statistical Decision Theory and Bayesian Analysis, 2nd ed. Springer-Verlag, New York, New York, USA.
- Berger, J. O. 2000. Bayesian analysis: a look at today and thoughts of tomorrow. Journal of the American Statistical Association (in press).
- Berger, J. O., and D. A. Berry. 1988. Statistical analysis and the illusion of objectivity. American Scientist 76:159-165.
- Berry, D. A. 1996. Statistics: A Bayesian Perspective. Wadsworth, Belmont, California, USA.
- Besag, J. E., and R. A. Kempton. 1986. Statistical analysis of field experiments using neighboring plots. Biometrics 42:231-251.
- Bickel, P. J., and D. A. Freedman. 1981. Some asymptotic theory for the bootstrap. Annals of Statistics 9:1196-1217.
- Biondini, M. E., P. W. Mielke Jr., and E. F. Redente. 1988. Permutation techniques based on Euclidean analysis spaces: a new and powerful statistical method for ecological research. Coenoses 3:155-174.
- Bishop, J. G., and D. W. Schemske. 1998. Variation in flowering phenology and its consequences for lupines colonizing Mount St. Helens. Ecology 79:534-546.
- Blackburn, T. M., J. H. Lawton, and J. N. Perry. 1992. A method of estimating the slope of upper bounds of plots of body size and abundance in natural animal assemblages. Oikos 65:107-112.
- Boecklen, W. J., and G. J. Niemi. 1994. Multivariate association of graph-theoretic variables and physicochemical properties. SAR and QSAR in Environmental Research 2:79-87.
- Bollen, K. A. 1989. Structural Equations with Latent Variables. Wiley, New York, New York, USA.
- Bookstein, F. L. 1986. The elements of latent variable models: a cautionary lecture. Pages 203-230 in M. E. Lamb, A. L. Brown, and B. Rogoff, editors, Advances in Developmental Psychology. Lawrence Erlbaum, Hillsdale, New Jersey, USA.
- Borcard, D., P. Legendre, and P. Drapeau. 1992. Partialling out the spatial component of ecological variation. Ecology 73:1045-1055.
- Borenstein, M. 1994. Planning for precision in survival studies. Journal of Clinical Epidemiology 47:1277-1285.
- Bormann, F. H., and G. E. Likens. 1979. Pattern and Process in a Forested Ecosystem. Springer-

Verlag, New York, New York, USA.

- Box, G. E. P. 1954. Some theorems on quadratic forms applied in the study of analysis of variance problems: I. Effect of inequality of variance in the one-way classification. Annals of Mathematical Statistics 25:290-302.
- Box, G. E. P., and C. R. Cox. 1964. An analysis of transformations. Journal of the Royal Statistical Society, Series B 26:211-243.
- Box, G. E. P., and G. M. Jenkins. 1976. Time Series Analysis: Forecasting and Control, rev. ed. Holden-Day, San Francisco, California, USA.
- Box, G. E. P., and D. A. Pierce. 1970. Distributions of residual autocorrelations in autoregressive-integrated moving average time series models. Journal of the American Statistical Association 65:1509-1526.
- Box, G. E. P., and G. C. Tao. 1973. Bayesian Inference in Statistical Analysis. Wiley, New York, New York, USA.
- Box, G. E. P., and G. C. Tiao. 1975. Intervention analysis with applications to economic and environmental parameters. Journal of the American Statistical Association 70:70-79.
- Box, G. E. P., W. G. Hunter, and J. S. Hunter. 1978. Statistics for Experimenters: An Introduction to Design, Data Analysis, and Model Building. Wiley, New York, New York, USA.
- Bradley, D. R., R. L. Russell, and C. P. Reeve. 1996. Statistical power in complex experimental designs. Behavior Research Methods, Instruments, and Computers 28:319-326.
- Bradley, J. V. 1978. Robustness? British Journal of Mathematical and Statistical Psychology 31:144-152.
- Bray, J. H., and S. E. Maxwell. 1985. Multivariate Analysis of Variance. Sage Publications, Inc., Newbury Park, California, USA.
- Breckler, S. J. 1990. Applications of covariance structure modeling in psychology: Cause for concern? Psychological Bulletin 107:260-273.
- Brezonik, P. L., L. A. Baker, J. R. Eaton, T. M. Frost, P. Garrison, T. K. Kratz, J. J. Magnuson, J. E. Perry, W. J. Rose, B. K. Shepard, W. A. Swenson, C. J. Watras, and K. E. Webster. 1986.
 Experimental acidification of Little Rock Lake, Wisconsin. Water, Air, and Soil Pollution 31:115-121.
- Brodie, C., G. Houle, and M.-J. Fortin. 1995. Development of a P. balsamifera clone in subarctic

Québec reconstructed from spatial analyses. Journal of Ecology 83:309-320.

- Brody, A. K. 1992. Oviposition choices by a pre-dispersal seed predator (*Hylemya* sp.): I. Correspondence with hummingbird pollinators, and the role of plant size, density and floral morhpology. Oecologia 91:56-62.
- Brown, J. H., D. W. Davidson, J. C. Munger, and R. S. Inouye. 1986. Experimental community ecology: The desert granivore system. Pages 41-61 in J. Diamond and T. J. Case, editors, Community Ecology. Harper & Row, New York, New York, USA.
- Brownlee, K. A. 1965. Statistical Theory and Methodology in Science and Engineering, 2nd ed. John Wiley & Sons, New York, New York, USA.
- Buckland, S. T., and P. H. Garthwaite. 1991. Quantifying the precision of mark-recapture estimates using the bootstrap and related methods. Biometrics 47:255-268.
- Buja, A., D. Cook, and D. F. Swayne. 1996. Interactive high-dimensional data visualization. Journal of Computational and Graphical Statistics 5:78-99.
- Bullock, J. M., J. Silvertown, and B. Clear Hill. 1996. Plant demographic responses to environmental variation: distinguishing between effects on age structure and effects on agespecific vital rates. Journal of Ecology 84:733-743.
- Bunge, M. 1959. Causality. Harvard University Press, Cambridge, Massachusetts, USA.
- Buonaccorsi, J. P., and A. M. Liebhold. 1988. Statistical methods for estimating ratios and products in ecological studies. Environmental Entomology 17:572-580.
- Burgman, M. A. 1987. An analysis of the distribution of plants on granite outcrops in southern Western Australia using Mantel tests. Vegetatio 71:79-86.
- Burnham, K. P., and D. R. Anderson. 1998. Model Selection and Inference: A Practical Information-Theoretic Approach. Springer-Verlag, New York, New York, USA.
- Burton, P. J., and D. Mueller-Dombois. 1984. Response of *Metrosideros polymorpha* seedlings to experimental canoy openings. Ecology 65:779-791.
- Cade, B. S., J. W. Terrell, and R. L. Schroeder. 1999. Estimating effects of limiting factors with regression quantiles. Ecology 80:311-323.
- Campbell, B. D., and J. P. Grime. 1992. An experimental test of plant strategy theory. Ecology 73:15-29.
- Campbell, D. R., N. M. Waser, M. V. Price, E. A. Lynch, and R. J. Mitchell. 1991. Components of phenotypic selection: pollen export and corolla width in *Ipomopsis aggregata*. Evolution

45:1458-1467.

- Caraco, T. 1979. Time budgeting and group size: A theory. Ecology 60:611-617.
- Carey, J. R., P. Liedo, H.-G. Müller, J.-L. Wang, and J. W. Vaupel. 1998. Dual modes of aging in Mediterranean fruit fly females. Science 281:996-998.
- Carpenter, S. R. 1989. Replication and treatment strength in whole-lake experiments. Ecology 70:453-463.
- Carpenter, S. R. 1990. Large scale perturbations: Opportunities for innovation. Ecology 71:2038-2043.
- Carpenter, S. R., T. M. Frost, D. Heisey, and T. Kratz. 1989. Randomized intervention analysis and the interpretation of whole ecosystem experiments. Ecology 70:1142-1152.
- Carpenter, S. R., S. W. Chisholm, C. J. Krebs, D. W. Schindler, and R. F. Wright. 1995. Ecosystem experiments. Science 269:324-327.
- Carpenter, S. R., J. J. Cole, T. E. Essington, J. R. Hodgson, J. N. Houser, J. F. Kitchell, and M. L. Pace. 1998. Evaluating alternative explanations in ecosystem experiments. Ecosystems 1:335-344.
- Casas, J., and B. Hulliger. 1994. Statistical analysis of functional response experiments. Biocontrol Science and Technology 4:133-145.
- Caswell, H. 1986. Matrix models and the analysis of complex plant life cycles. Lectures on Mathematics in Life Sciences 18:171-234.
- Caswell, H. 1989. Matrix Population Models. Sinauer, Sunderland, Massachusetts, USA.
- Cerato, R. M. 1990. Interpretable statistical tests for growth comparisons using parameters in the von Bertalanffy equation. Canadian Journal of Fisheries and Aquatic Sciences 47:1416-1426.
- Chalmers, I., J. Hetherington, D. Elhourne, M. J. N. C. Keirse, and M. Enkin. 1989. Effective Care in Pregnancy and Childbirth. Oxford University Press, Oxford, UK.
- Chambers, J. M., and T. J. Hastie, editors. 1992. Statistical Models in S. Wadsworth and Brooks, Pacific Grove, California, USA.
- Chatterjee, S., and B. Price. 1991. Regression Analysis by Example, 2nd ed. John Wiley & Sons, New York, New York, USA.
- Cheng, C. S. 1983. Construction of optimal balanced incomplete block designs for correlated observations. Annals of Statistics 11:240-246.
- Chernick, M. R. 1999. Bootstrap Methods: A Practioners Guide. John Wiley & Sons, New York,

New York, USA.

- Chow, S. C., and J. P. Liu. 1999. Design and Analysis of Bioavailability and Bioequivalence Studies, 2nd ed. Marcel Dekker, New York, New York, USA.
- Chow, S. L. 1998. Précis of statistical significance: rationale, validity, and utility (With commentary). Behavioral and Brain Sciences 21:169-239.
- Christiansen, R. 1997. Log-linear Models and Logistic Regression. Springer-Verlag, New York, New York, USA.
- Clark, J. S. 1989. Ecological disturbance as a renewal process: theory and application to fire history. Oikos 56:17-30.
- Clark, J. S. 1998. Why trees migrate so fast: Confronting theory with dispersal biology and the paleo record. American Naturalist 152:204-224.
- Clark, J. S., B. Beckage, P. Camill, B. Cleveland, J. HilleRisLambers, J. Lichter, J. MacLachlan, J. Mohan, and P. Wyckoff. 1998. Interpreting recruitment limitation in forests? American Journal of Botany 86:1-16.
- Clark, J. S., M. Silman, R. Kern, E. Macklin, and J. HilleRisLambers. 1999. Seed dispersal near and far: generalized patterns across temperate and tropical forests. Ecology 80:1475-1494.
- Clarke, K. R. 1993. Non-parametric multivariate analyses of changes in community structure. Australian Journal of Ecology 18:117-143.
- Clarke, K. R., and R. M. Warwick. 1994. Change in marine communities: an approach to statistical analysis and interpretation. Plymouth Marine Laboratory, UK.
- Cleveland, W. S. 1979. Robust locally weighted regression and smoothing scatterplots. Journal of the American Statistical Association 74:829-836.
- Cleveland, W. S. 1985. The Elements of Graphing Data. Wadsworth Advanced Books and Software, Monterey, California, USA.
- Cliff, A. D., and J. K. Ord. 1981. Spatial Processes: Models and Applications. Pion, London, UK.
- Cloninger, C. R., D. C. Rao, J. Rice, T. Reich, and N. E. Morton. 1983. A defense of path analysis in genetic epidemiology. American Journal of Human Genetics 35:733-756.
- Cochran, W. G., and G. M. Cox. 1957. Experimental Designs, 2nd ed. Wiley, New York, New York, USA.
- Cock, M. J. W. 1977. Searching behaviour of polyphagous predators. Ph.D. Dissertation.

Imperial College, London, UK.

- Cody, R. P., and J. K. Smith. 1997. Applied Statistics and the SAS Programming Language. Prentice Hall, Upper Saddle River, New Jersey, USA.
- Cohen, J. 1969. Statistical Power Analysis for the Behavioral Sciences. Academic Press, New York, New York, USA.
- Cohen, J. 1988. Statistical Power Analysis for the Behavioral Sciences, 2nd ed. Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey, USA.
- Cohen, J., and P. Cohen. 1983. Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. Lawrence Erlbaum, Hillsdale, California, USA.
- Collett, D. 1994. Modelling survival data in medical research. Chapman and Hall, London, UK.
- Collier, R. O., Jr., F. B. Baker, G. K. Mandeville, and T. F. Hayes. 1967. Estimates of test size for several test procedures based on conventional variance ratios in the repeated measures design. Psychometrika 32:339-353.
- Connell, J. H. 1983. On the prevalence and relative importance of interspecific competition: Evidence from field experiments. American Naturalist 122:661-696.
- Connell, J. H. 1990. Apparent versus "real" competition in plants. Pages 9-26 in J. Grace and D. Tilman, editors, Perspectives on Plant Competition. Academic Press, San Diego, California, USA.
- Conner, J. K. 1996. Understanding natural selection: an approach integrating selection gradients, multiplicative fitness components, and path analysis. Ethology, Ecology, and Evolution 8:387-397.
- Conner, J. K., S. Rush, and P. Jennetten. 1996. Measurements of natural selection on floral traits in wild radish (*Raphanus raphanistrum*). 1. Selection through lifetime female fitness. Evolution 50:1127-1136.
- Connolly, J. 1986. On difficulties with replacement-series methodology in mixture experiments. Journal of Applied Ecology 23:125-137.
- Connor, E. F., and D. Simberloff. 1979. Assembly of species communities: chance or competition? Ecology 60:1132-1140.
- Cook, D., A. Buja, J. Cabrera, and C. Hurley. 1995. Grand tour and projection pursuit. Journal of Computational and Graphical Statistics 4:155-172.
- Cooper, H. M. 1989. Integrating Research: A Guide for Literature Reviews, 2nd ed. Sage

Publications, Newbury Park, California, USA.

- Cooper, H. M., and L. V. Hedges, editors. 1994. Handbook of Research Synthesis. Russell Sage Foundation, New York, New York, USA.
- Cousins, R. D. 1995. Why isn't every physicist a Bayesian? American Journal of Physics 63:398-410.
- Crawley, M. J. 1993. GLIM for Ecologists. Blackwell Scientific, London, UK.
- Crespi, B. J. 1990. Measuring the effect of natural selection on phenotypic interaction systems. American Naturalist 135:32-47.
- Crespi, B. J., and F. L. Bookstein. 1989. A path-analytic model for the measurement of selection on morphology. Evolution 43:18-28.
- Cressie, N. 1985. Fitting variogram models by weighted least squares. Journal of the International Association for Mathematical Geology 17:563-586.
- Cressie, N. 1991. Statistics for Spatial Data. Wiley, New York, New York, USA.
- Cressie, N., and D. M. Hawkins. 1980. Robust estimation of the variogram. Journal of the International Association for Mathematical Geology 12:115-125.
- Crome, F. H. J., M. R. Thomas, and L. A. Moore. 1996. A novel Bayesian approach to assessing impacts of rain forest logging. Ecological Applications 6:1104-1123.
- Crowder, M. J., and D. J. Hand. 1990. Analysis of Repeated Measures. Chapman and Hall, London, UK.
- Crowley, P. H. 1992. Resampling methods for computation intensive data analysis in ecology and evolution. Annual Review of Ecology and Systematics 23:405-447.
- Cryer, J. D. 1986. Time Series Analysis. Duxbury, Boston, Massachusetts, USA.
- Cullis, B. R., and A. C. Gleeson. 1989. The efficiency of neighbour analysis for replicated variety trials in Australia. Journal of Agricultural Science, Cambridge 113:233-239.
- Cullis, B. R., and A. C. Gleeson. 1991. Spatial analysis of field experiments -- an extension to two dimensions. Biometrics 47:1449-1460.
- Czárán, T., and S. Bartha. 1992. Spatiotemporal dynamic models of plant populations and communities. Trends in Ecology and Evolution 7:38-42.
- Davis, J. A. 1985. The logic of causal order. Sage University Paper Series on Quantitative Applications in the Social Sciences 07-055. Sage, Thousand Oaks, California, USA.

Davison, A. C., and D. V. Hinkley. 1997. Bootstrap Methods and their Application. Cambridge

University Press, Cambridge, UK.

- Dawson, K. S., C. Gennings, and W. H. Carver. 1997. Two graphical techniques useful in detecting correlation structure in repeated measures data. American Statistician 51:275-284.
- Day, R. W., and G. P. Quinn. 1989. Comparisons of treatments after an analysis of variance in ecology. Ecological Monographs 59:433-463.
- DeMaris, A. 1992. Logit modeling: practical applications. Sage University Paper Series on Quantitative Applications in the Social Sciences 07-086. Sage, Thousand Oaks, California, USA.
- Dennis, B. 1996. Discussion: should ecologists become Bayesians? Ecological Applications 6:1095-1103.
- DeSteven, D. 1991a. Experiments on mechanisms of tree establishment in old-field succession: seedling emergence. Ecology 72:1066-1075.
- DeSteven, D. 1991b. Experiments on mechanisms of tree establishment in old-field succession: seedling survival and growth. Ecology 72:1076-1089.
- Diamond, J. 1986. Overview: Laboratory experiments, field experiments, and natural experiments. Pages 3-22 in J. Diamond and T. J. Case, editors, Community Ecology. Harper and Row, New York, New York, USA.
- Diamond, J. M., and M. E. Gilpin. 1982. Examination of the "null" model of Connor and Simberloff for species co-occurrences on islands. Oecologia 52:64-74.
- Digby, P. G. N., and R. A. Kempton. 1987. Multivariate Analysis of Ecological Communities. Chapman and Hall, London, UK.
- Diggle, P. J. 1990. Time Series: A Biostatistical Introduction. Clarendon Press, Oxford, UK.
- Dixon, P. M. 1993. The bootstrap and the jackknife: describing the precision of ecological indices. Pages 290-318 in S. M. Scheiner and J. Gurevitch, editors, Design and Analysis of Ecological Experiments. Chapman and Hall, New York, New York, USA.
- Dixon, P., and A. M. Ellison. 1996. Bayesian inference. Ecological Applications 6:1034-1035.
- Dixon, P. M., and K. A. Garrett. 1994. Statistical issues for field experimenters. Pages 439-450 in R. J. Kendall and T. E. Lacher Jr., editors, Wildlife toxicology and population modeling: integrated studies of agroecosystems. CRC Press, Boca Raton, Florida, USA.
- Dixon, P. M., J. Weiner, T. Mitchell-Olds, and R. Woodley. 1987. Bootstrapping the Gini coefficient of inequality. Ecology 68:1548-1551.

- Dobson, A. J. 1990. An Introduction to Generalized Linear Models. Chapman and Hall, London, UK.
- Dorfman, J. H., C. L. Kling, and R. J. Sexton. 1990. Confidence intervals for elasticities and flexibilities: Reevaluating the ratios of normals case. American Journal of Agricultural Economics 72:1006-1017.
- Douglas, M. E., and J. A. Endler. 1982. Quantitative matrix comparisons in ecological and evolutionary investigations. Journal of Theoretical Biology 99:777-795.
- Dow, M. M., and J. M. Cheverud. 1985. Comparison of distance matrices in studies of population structure and genetic microdifferentiation: Quadratic assignment. American Journal of Physical Anthropology 68:367-373.
- Draper, N. R., and H. Smith. 1981. Applied Regression Analysis, 2nd ed. Wiley, New York, New York, USA.
- Dudewicz, E. J. 1972. Confidence intervals for power with special reference to medical trials. Journal of Statistics 14:211-216.
- Dungan, M. L. 1986. Three-way interactions: Barnacles, limpets, and algae in a Sonoran desert rocky intertidal zone. American Naturalist 127:292-316.
- Dutilleul, P. 1993. Spatial heterogeneity and the design of ecological field experiments. Ecology 74:1646-1658.
- Dyer, L. A. 1995. Tasty generalists and nasty specialists? A comparative study of antipredator mechanisms in tropical lepidopteran larvae. Ecology 76:1483-1496.
- Eberhardt, L. L. 1976. Quantitative ecology and impact assessment. Journal of Environmental Management 4:27-70.
- Eberhardt, L. L., and J. M. Thomas. 1991. Designing environmental field studies. Ecological Monographs 61:53-73.
- Edgington, E. S. 1995. Randomization Tests, 3rd ed. Marcel Dekker, Inc., New York, New York, USA.
- Edwards, A. W. F. 1963. The measure of association in a 2x2 table. Journal of the Royal Statistical Society A126:109-114.
- Edwards, A. W. F. 1972. Likelihood. Cambridge University Press, Cambridge, UK.
- Edwards, D. 1996. Comment: The first data analysis should be journalistic. Ecological Applications 6:1090-1094.

- Edwards, W., H. Lindman, and L. J. Savage. 1983. Bayesian statistical inference for psychological research. Psychological Review 70:193-242.
- Efron, B. 1982. The jackknife, the bootstrap, and other resampling plans. Society of Industrial and Applied Mathematics, CBMS-NSF Monograph 38.
- Efron, B. 1987. Better bootstrap confidence intervals (with discussion). Journal of the American Statistical Association 82:171-200.
- Efron, B. 1992. Six questions raised by the bootstrap. Pages 99-126 in R. LePage and L. Billard, editors, Exploring the Limits of Bootstrap. Wiley, New York, New York, USA.
- Efron, B., and R. LePage. 1992. Introduction to bootstrap. Pages 3-10 in R. LePage and L. Billard, editors, Exploring the Limits of Bootstrap. Wiley, New York, New York, USA.
- Efron, B., and R. Tibshirani. 1986. Bootstrap methods for standard errors, confidence intervals, and other measures of statistical accuracy. Statistical Science 1:54-77.
- Efron, B., and R. Tibshirani. 1991. Statistical data analysis in the computer age. Science 253:390-395.
- Efron, B., and R. J. Tibshirani. 1993. An Introduction to the Bootstrap. Chapman and Hall, London, UK.
- Ellison, A. M. 1992. Statistics for PCs. Bulletin of the Ecological Society of America 73:74-87.
- Ellison, A. M., and B. L. Bedford. 1991. Response of a wetland vascular plant community to disturbance: A simulation study. Ecosystem Research Center, publication ERC243, Cornell University, Ithaca, New York, USA.
- Ellison, A. M., J. S. Denslow, B. A. Loiselle, and M. D. Brens. 1993. Seed and seedling ecology of neotropical Melastomataceae. Ecology 74:1733-1749.
- Endler, J. A. 1986. Natural Selection in the Wild. Princeton University Press, Princeton, New Jersey, USA.
- Estabrook, G. F., and B. Gates. 1984. Character analysis in the *Banisteriopsis campestris* complex (Malpighiaceae), using spatial auto-correlation. Taxon 33:13-25.
- Evans, J. 1983. The ecology of *Ailanthus altissima*: an invading species in both early and late successional communities of the Eastern Deciduous Forest. BS thesis. Cornell University, Ithaca, New York, USA.
- Fan, Y., and F. L. Pettit. 1994. Parameter estimation of the functional response. Environmental Entomology 23:785-794.

- Fan, Y., and F. L. Pettit. 1997. Functional responses, variance, and regression analysis: a reply to Williams and Juliano. Environmental Entomology 26:1-3.
- Feinsinger, P., and H. M. I. Tiebout. 1991. Competition among plants sharing hummingbird pollinators: Laboratory experiments on a mechanism. Ecology 72:1946-1952.
- Fienberg, S. E. 1979. The use of chi-squared statistics for categorical data problems. Journal of the Royal Statistical Society B41:54-64.
- Fienberg, S. E., and S. H. Kim. 1999. Combining conditional log-linear structures. Journal of the American Statistical Association 94:229-239.
- Firbank, L. G., and A. R. Watkinson. 1987. On the analysis of competition at the level of the individual plant. Oecologia 71:308-317.
- Fisher, R. A. 1935. The Design of Experiments. Oliver and Boyd, Edinburgh, UK.
- Fisher, R. A. 1959. Statistical Methods and Scientific Inference. Hafner, New York, New York, USA.
- Fisher, R. A. 1971. The Design of Experiments, 8th ed. Oliver and Boyd, London, UK.
- Fortin, M.-J., P. Drapeau, and P. Legendre. 1989. Spatial autocorrelation and sampling design in plant ecology. Vegetatio 83:209-222.
- Fowler, N. L. 1986. Density dependent populaion regulation in a Texas grassland. Ecology 67:545-554.
- Fowler, N. 1990. The 10 most common statistical errors. Bulletin of the Ecological Society of America 71:161-164.
- Fox, G. A. 1989. Consequences of flowering time in a desert annual: Adaptation and history. Ecology 70:1294-1306.
- Fox, G. A. 1990a. Components of flowering time variation in a desert annual. Evolution 44:1404-1423.
- Fox, G. A. 1990b. Perennation and the persistence of annual life histories. American Naturalist 135:829-840.
- Fox, G. A. 1993. Failure-time analysis: Emergence, flowering, survivorship, and other waiting times. Pages 253-289 in S. M. Scheiner and J. Gurevitch, editors, Design and Analysis of Ecological Experiments. Chapman and Hall, New York, New York, USA.
- Freckleton, R. P., and A. R. Watkinson. 1997. Measuring plant neighbour effects. Functional Ecology 11:532-536.

- Freckleton, R. P., and A. R. Watkinson. 1999. The mis-measurement of plant competition. Functional Ecology 13:285-287.
- Freund, R. J., and R. C. Littell. 1986. SAS System for Regression, 1986 Edition. SAS Institute Inc., Cary, North Carolina, USA.
- Frost, T. M., D. L. DeAngelis, T. F. H. Allen, S. M. Bartell, D. J. Hall, and S. H. Hurlbert. 1988. Scale in the design and interpretation of aquatic community research. Pages 229-258 in S. R. Carpenter, editor, Complex Interactions in Lake Communities. Springer-Verlag, New York, New York, USA.
- Fry, J. D. 1992. The mixed-model analysis of variance applied to quantitative genetics: biological meaning of the parameters. Evolution 46:540-550.
- Futuyma, D. J., and T. E. Philippi. 1987. Genetic variation and covariation in response to host plants by *Alsophila pomentaria* (Lepidoptera: Geometridae). Evolution 41:269-279.
- Gaines, S. D., and W. R. Rice. 1990. Analysis of biological data when there are ordered expectations. American Naturalist 135:310-317.
- Gardner, M. J., and D. G. Altman. 1986. Confidence intervals rather than P values; estimation rather than hypothesis testing. British Medical Journal 292:746-750.
- Garvey, J. E., E. A. Marschall, and R. A. Wright. 1998. From star charts to stoneflies: detecting relationships in continuous bivariate data. Ecology 79:442-447.
- Geisser, S., and S. W. Greenhouse. 1958. An extension of Box's results on the use of the F distribution in multivariate analysis. Annals of Mathematical Statistics 29:885-891.
- Gelman, A., J. B. Carlin, H. S. Stern, and D. B. Rubin. 1995. Bayesian Data Analysis. Chapman and Hall, London, UK.
- Gerard, P. D., D. R. Smith, and W. Govinda. 1998. Limits of retrospective power. Journal of Wildlife Management 62:801-807.
- Gibbs, J. P., and S. M. Melvin. 1997. Power to detect trends in waterbird abundance with callresponse surveys. Journal of Wildlife Management 61:1262-1267.
- Gibson, D. J., J. Connolly, D. D. Hartnett, and J. D. Weidenhamer. 1999. Designs for greenhouse studies of interactions between plants. Journal of Ecology 87:1-16.
- Gilliam, J. F., and D. F. Fraser. 1987. Habitat selection under predation hazard: A test of a model with foraging minnows. Ecology 68:1856-1862.
- Gittins, R. 1985. Canonical Analysis. Springer-Verlag, New York, New York, USA.

- Glantz, S. A., and B. K. Slinker. 1990. Primer of Applied Regression and Analysis of Variance. McGraw-Hill, New York, New York, USA.
- Glass, G. V., B. McGraw, and M. L. Smith. 1981. Meta-analysis in Social Research. Sage Publications, Beverly Hills, California, USA.
- Gnanadesikan, R. 1977. Methods for Statistical Data Analysis of Multivariate Observations. Wiley, New York, New York, USA.
- Goldberg, D. E. 1994. On testing the importance of competition for community structure. Ecology 75:1503-1506.
- Goldberg, D. E., and A. M. Barton. 1992. Patterns and consequences of interspecific competition in natural communities: a review of field experiments with plants. American Naturalist 139:771-801.
- Goldberg, D. E., and G. Estabrook. 1998. A method for comparing diversity and species abundances among samples of different sizes and an experimental example with desert annuals. Journal of Ecology 86:983-988.
- Goldberg, D. E., and K. Landa. 1991. Competitive effect and response: hierarchies and correlated traits in the early stages of competition. Journal of Ecology 79:1013-1030.
- Goldberg, D. E., and P. A. Werner. 1983. The equivalence of competitors in plant communities: A null hypothesis and a field experimental approach. American Journal of Botany 70:1098-1104.
- Goldberg, D. E., R. Turkington, and L. Olsvig-Whittaker. 1995. Quantifying the communitylevel effects of competition. Folia Geobotanica and Phytotaxonomica 30:231-242.
- Gonzalez, M. 1992. Effects of experimental acidification on zooplankton populations: A multiple scale approach. Ph.D. Dissertation. University of Wisconsin, Madison, Wisconsin, USA.
- Gonzalez, M. J., and T. M. Frost. 1994. Comparisons of laboratory bioassays and a whole-lake experiment: rotifer responses to experimental acidification. Ecological Applications 4:69-80.
- Gonzalez, M., T. M. Frost, and P. Montz. 1990. Effects of experimental acidification on rotifer population dynamics in Little Rock Lake, Wisconsin, USA. Verhandlungen der Internationale Vereinigung fur Theoretische und Angewandte Limnologie 24:449-456.
- Goodall, D. W. 1978. Sample similarity and species correlation. Pages 99-149 in R. H. Whittaker, editor, Ordination of Plant Communities. Junk, The Hague, The Netherlands.

Goodman, S. N., and J. A. Berlin. 1994. The use of predicted confidence intervals when planning

experiments and the misuse of power when interpreting results. Annals of Internal Medicine 121:201-206.

- Gould, S. J. 1986. Evolution and the triumph of homology, or why history matters. American Scientist 74:60-69.
- Gower, J. C., and P. Legendre. 1986. Metric and Euclidean properties of dissimilarity coefficients. Journal of Classification 3:5-48.
- Grace, J. B., and B. H. Pugesek. 1997. Structural equation model of plant species richness and its application to a coastal wetland. American Naturalist 149:436-460.
- Grace, J. B., and B. H. Pugesek. 1998. On the use of path analysis and related procedures for the investigation of ecological problems. American Naturalist 152:151-159.
- Green, P. J., C. Jennison, and A. H. Seheult. 1985. Analysis of field experiments by least squares smoothing. Journal of the Royal Statistical Society, Series B 47:299-315.
- Greenhouse, S. W., and S. Geisser. 1959. On methods in the analysis of profile data. Psychometrika 24:95-112.
- Greenland, S. 1988. On sample-size and power calculations for studies using confidence intervals. American Journal of Epidemiology 128:231-237.
- Grime, J. P. 1977. Evidence for the existence of three primary strategies in plants and its relevance to ecological and evolutionary theory. American Naturalist 111:1169-1194.
- Grondona, M. O., and N. Cressie. 1991. Using spatial considerations in the analysis of experiments. Technometrics 33:381-392.
- Grondona, M. O., and N. Cressie. 1993. Efficiency of block designs under stationary secondorder autoregressive errors. Sankhya A 55:267-284.
- Gross, K. L., and P. A. Werner. 1982. Colonizing abilities of "biennial" plant species in relation to ground cover: Implications for their distributions in a successional sere. Ecology 63:921-931.
- Guo, Q., J. H. Brown, and B. J. Enquist. 1998. Using constraint lines to characterize plant performance. Oikos 83:237-245.
- Gurevitch, J. 1986. Competition and the local distribution of the grass *Stipa neomexicana*. Ecology 67:46-57.
- Gurevitch, J., and S. T. Chester Jr. 1986. Analysis of repeated experiments. Ecology 67:251-254.

Gurevitch, J., and S. L. Collins. 1994. Experimental manipulation of natural plant communities.

Trends in Ecology and Evolution 9:94-98.

- Gurevitch, J., and L. V. Hedges. 1999. Statistical issues in conducting ecological meta-analyses. Ecology 80:1142-1149.
- Gurevitch, J., L. L. Morrow, A. Wallace, and J. S. Walsh. 1992. A meta-analysis of field experiments on competition. American Naturalist 140:539-572.
- Gurevitch, J., J. A. Morrison, and L. V. Hedges. 2000. The interaction between competition and predation: a meta-analysis of field experiments. American Naturalist (in press).
- Haber, R. N., and L. Wilkinson. 1982. Perceptual components of computer displays. IEEE Computer Graphics and Applications 2:23-35.
- Hairston, N. G., Sr. 1980. The experimental test of an analysis of field distributions: Competition in terrestrial salamanders. Ecology 61:817-8226.
- Hairston, N. G., Sr. 1989. Ecological Experiments: Purpose, Design, and Execution. Cambridge University Press, Cambridge, UK.
- Haldane, J. B. S. 1955. The estimation and significance of the logarithm of a ratio of frequencies. Annals of Human Genetics 20:309-311.
- Hall, P. 1992. The Bootstrap and Edgeworth Expansion. Springer-Verlag, New York, New York, USA.
- Hall, P., and S. R. Wilson. 1991. Two guidelines for bootstrap hypothesis testing. Biometrics 47:757-762.
- Hamilton, L. C. 1992. Regression with Graphics. Duxbury, Belmont, California, USA.
- Hand, D., and M. Crowder. 1996. Practical Longitudinal Data Analysis. Chapman and Hall, New York, New York, USA.
- Hand, D. J., and C. C. Taylor. 1987. Multivariate Analysis of Variance and Repeated Measures. Chapman and Hall, London, UK.
- Hannon, S. J., K. Martin, L. Thomas, and J. Scheick. 1993. Investigator disturbance and clutch predation in willow ptarmigan: methods for evaluating impact. Journal of Field Ornithology 64:575-586.
- Harlow, L. L., S. A. Mulaik, and J. A. Steiger, editors. 1997. What If There Were No Significance Tests? Lawrence Erlbaum Associates, London, UK.
- Harper, J. L. 1977. Population Biology of Plants. Academic Press, London, UK.
- Harris, R. J. 1985. A Primer of Multivariate Statistics. Academic Press, New York, New York,

USA.

- Hartley, H. O., and S. R. Searle. 1969. A discontinuity in mixed model analyses. Biometrics 25:573-576.
- Harvey, L. E., F. W. Davis, and N. Gale. 1988. The analysis of class dispersion patterns using matrix comparisons. Ecology 69:537-542.
- Hassell, M. P. 1978. The Dynamics of Arthropod Predator-Prey Systems. Princeton University Press, Princeton, New Jersey, USA.
- Hassell, M. P., J. H. Lawton, and J. R. Beddington. 1977. Sigmoid functional responses by invertebrate predators and parasitoids. Journal of Animal Ecology 46:249-262.
- Hatcher, L., and E. J. Stepanski. 1994. A step-by-step approach to using the SAS system for univariate and multivariate statistics. SAS Institute, Inc., Cary, North Carolina, USA.
- Hatfield, J. S., W. R. Gould, B. A. Hoover, M. R. Fuller, and E. L. Lindquist. 1996. Detecting trends in raptor counts: power and type I error rates of various statistical tests. Wildlife Society Bulletin 24:505-515.
- Hayduk, L. A. 1987. Structural Equation Modeling with LISREL. Johns Hopkins University Press, Baltimore, Maryland, USA.
- Hayes, J. P. 1987. The positive approach to negative results in toxicology studies. Ecotoxicology and Environmental Safety 14:73-77.
- Hays, W. L. 1981. Statistics, 3rd ed. Holt, Rinehart & Winston, New York, New York, USA.
- Hedges, L. V. 1983. A random effects model for effect sizes. Psychological Bulletin 93:388-395.
- Hedges, L. V., and I. Olkin. 1985. Statistical Methods for Meta-analysis. Academic Press, New York, New York, USA.
- Hedges, L. V., and I. Olkin. 2000. Statistical methods for meta-analysis in the medical and social sciences, 2nd ed. Academic Press, New York, New York, USA.
- Hedges, L. V., J. Gurevitch, and P. Curtis. 1999. The meta-analysis of response ratios in experimental ecology. Ecology 80:1150-1156.
- Heffner, R. A., M. J. Butler IV, and C. K. Reilly. 1996. Pseudoreplication revisited. Ecology 77:2558-2562.
- Heltshe, J. F. 1988. Jackknife estimate of the matching coefficient of similarity. Biometrics 44:447-460.
- Heltshe, J. F., and N. E. Forrester. 1985. Statistical evaluation of the jackknife estimate of

diversity when using quadrat samples. Ecology 66:107-111.

- Herr, D. G. 1986. On the history of ANOVA in unbalanced, factorial design: The first 30 years. American Statistician 40:265-270.
- Herrera, C. M. 1993. Selection on floral morphology and environmental determinants of fecundity in a hawk-moth-pollinated violet. Ecological Monographs 63:251-275.
- Heyde, C. C., and J. E. Cohen. 1985. Confidence intervals for demographic projections based on products of random matrices. Theoretical Population Biology 27:120-153.
- Heywood, J. S. 1991. Spatial analysis of genetic variation in plant populations. Annual Review of Ecology and Systematics 22:335-355.
- Hicks, C. R. 1982. Fundamental Concepts in the Design of Experiments, 3rd ed. Holt, Rinehart & Winston, New York, New York, USA.
- Hilborn, R., and M. Mangel. 1997. The Ecological Detective: Confronting Models with Data. Princeton University Press, Princeton, New Jersey, USA.
- Hocking, R. R. 1985. The Analysis of Linear Models. Brooks/Cole Publishing Co., Belmont, California, USA.
- Holling, C. S. 1966. The functional response of invertebrate predators to prey density. Memoirs of the Entomological Society of Canada 48:1-87.
- Holm, S. 1979. A simple sequentially rejective multiple test procedure. Scandinavian Journal of Statistics 6:65-70.
- Holt, R. D. 1977. Predation, apparent competition, and the structure of prey communities. Theoretical Population Biology 12:197-229.
- Holt, R. D. 1985. Population dynamics in two-patch environments: Some anomalous consequences of an optimal habitat distribution. Theoretical Population Biology 28:181-208.
- Holt, R. D. 1987. Population dynamics and evolutionary processes: The manifold roles of habitat selection. Evolutionary Ecology 1:331-347.
- Holt, R. D., and B. P. Kotler. 1987. Short-term apparent competition. American Naturalist 130:412-430.
- Horn, J. S., H. H. Shugart, and D. L. Urban. 1989. Simulators as models of forest dynamics. Pages 256-267 in J. Roughgarden, R. M. May, and S. A. Levin, editors, Perspectives in Ecology Theory. Princeton University Press, Princeton, New Jersey, USA.
- Horton, D. R., P. L. Chapman, and J. L. Capinera. 1991. Detecting local adaptation in

phytophagus insects using repeated measures designs. Environmental Entomology 20:410-418.

- Horvitz, C. C., and D. W. Schemske. 1986. Seed dispersal and environmental heterogenetiy in a neotropical herb: A model of population and patch dynamics. Pages 169-186 in A. Estrada and T. H. Fleming, editors, Frugivores and Seed Dispersal. Dr. W. Junk Publishers, Dordrecht, The Netherlands.
- Horvitz, C. C., and D. W. Schemske. 1994. Effects of dispersers, gaps, and predators on dormancy and seedling emergence in a tropical herb. Ecology 75:1949-1958.
- Houck, M. A., and R. E. Strauss. 1985. The comparative study of functional responses: Experimental design and statistical interpretation. Canadian Entomologist 117:617-629.
- Howard, T., and D. E. Goldberg. 2000. Competitive response hierarchies for different fitness components of herbaceous perennials. Ecology in review.
- Hubert, L. J. 1987. Assignment Methods in Combinatorial Data Analysis. Marcel Dekker, New York, New York, USA.
- Huberty, C. J., and J. D. Morris. 1989. Multivariate analysis versus multiple univariate analyses. Psychological Bulletin 105:302-308.
- Hunt, R. L. 1976. A long-term evaluation of trout habitat development and its relation to improving management-oriented research. Transactions of the American Fisheries Society 105:361-364.
- Hunter, J. E., F. L. Schmidt, and G. B. Jackson. 1982. Meta-analysis: Cumulating Research Findings Across Studies. Sage Publications, Beverly Hills, California, USA.
- Hunter, M. D., and P. W. Price. 1992. Playing chutes and ladders: heterogeneity and the relative roles of bottom-up and top-down forces in natural communities. Ecology 73:724-732.
- Hurlbert, S. H. 1984. Pseudoreplication and the design of ecological field experiments. Ecological Monographs 54:187-211.
- Huston, M. A. 1997. Hidden treatments in ecological experiments: re-evaluating the ecosystem function of biodiversity. Oecologia 110:449-460.
- Hutchings, M. J., K. D. Booth, and S. Waite. 1991. Comparison of survivorship by the logrank test: Criticisms and alternatives. Ecology 72:2290-2293.
- Huynh, H., and L. S. Feldt. 1970. Conditions under which mean square ratios in repeated measurement designs have exact F-distributions. Journal of the American Statistical

Association 65:1582-1589.

- Huynh, H., and L. S. Feldt. 1976. Estimation of the Box correction for degrees of freedom from sample data in the randomized block and split-plot designs. Journal of Educational Statistics 1:69-82.
- Huynh, H., and G. K. Mandeville. 1979. Validity conditions in repeated measures designs. Psychological Bulletin 86:964-973.
- Hyde, J. S., and M. C. Linn. 1986. The Psychology of Gender: Advances Through Metaanalysis. Johns Hopkins University Press, Baltimore, Maryland, USA.
- Ishii-Kuntz, M. 1994. Ordinal log-linear models. Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-097. Sage, Thousand Oaks, California, USA.
- Ivlev, V. S. 1961. The Experimental Ecology of the Feeding of Fishes. Yale University Press, New Haven, Connecticut, USA.
- Jaccard, P. 1901. Distribution de la flore alpine dans le Bassin des Dranes et dans quelques regions voisines. Bulletin Societe Vaudoise des Sciences Naturelles 37:241-272.
- Jackson, J. B. C. 1981. Interspecific competition and species' distributions: The ghosts of theories and data past. American Zoologist 21:889-901.
- James, F. C., and C. E. McCulloch. 1990. Multivariate analysis in ecology and systematics: panacea or Pandora's box? Annual Review of Ecology and Systematics 21:129-166.
- Jassby, A. D., and T. M. Powell. 1990. Detecting changes in ecological time series. Ecology 71:2044-2052.
- Jenkins, G. M. 1979. Practical Experiences with Modelling and Forecasting Time Series. Gwylim Jenkins and Partners (Overseas), Ltd., St. Helier.
- Jennrich, R. I., and M. D. Schluchter. 1986. Unbalanced repeated-measures models with structured covariance matrices. Biometrics 42:805-820.
- Jöreskog, K. G., and D. Sörbom. 1988. LISREL 7 A Guide to the Program and Applications. Scientific Software, Morresville, Illinois, USA.
- Johnson, C. R., and K. H. Mann. 1988. Diversity, patterns of adaptation, and stability of Nova Scotian kelp beds. Ecological Monographs 58:129-154.
- Johnson, D. H. 1999. The insignificance of statistical significance testing. Journal of Wildlife Management 63:763-772.
- Johnson, M. L., D. G. Huggins, and F. DeNoyelles Jr. 1991. Ecosystem modeling with LISREL:

a new approach for measuring direct and indirect effects. Ecological Applications 1:383-398.

- Johnson, R. A., and D. W. Wichern. 1988. Applied Multivariate Statistical Analysis, 2nd ed. Prentice Hall, Englewood Cliffs, New Jersey, USA.
- Johnston, G. 1996. Repeated measures analysis with discrete data using the SAS system. Proceeding of the Twenty-first Annual SAS Users Group International Conference (available at www.sas.com).
- Jones, D. 1984. Use, misuse, and role of multiple-comparison procedures in ecological and agricultural entomology. Environmental Entomology 13:635-649.
- Jones, D., and N. Matloff. 1986. Statistical hypothesis testing in biology: a contradiction in terms. Journal of Economic Entomology 79:1156-1160.
- Jones, R. G. 1999. TechDig, Version 2.0. Shareware (available at http://www.xnet.com/~ronjones).
- Jones, R. H. 1980. Maximum likelihood fitting of ARMA models to time series with missing observations. Technometrics 22:389-395.
- Jordano, P. 1995. Frugivore-mediated selection on fruit and seed size: birds and St. Lucie's cherry, *Prunus mahaleb*. Ecology 76:2627-2639.
- Journel, A. G., and C. J. Hiujbregts. 1978. Mining Geostatistics. Academic Press, London, UK.
- Juliano, S. A. 1988. Chrysomelid beetles on water lily leaves: Herbivore density, leaf survival, and herbivore maturation. Ecology 69:1294-1298.
- Juliano, S. A. 1998. Species introduction and replacement among mosquitoes: interspecific resource competition or apparent competition? Ecology 79:255-268.
- Juliano, S. A., and J. H. Lawton. 1990. The relationship between competition and morphology II. Experiments on co-occurring dytiscid beetles. Journal of Animal Ecology 59:831-848.
- Juliano, S. A., and F. M. Williams. 1985. On the evolution of handling time. Evolution 39:212-215.
- Juliano, S. A., and F. M. Williams. 1987. A comparison of methods for estimating the functional response parameters of the random predator equation. Journal of Animal Ecology 56:641-653.
- Kabissa, J. C. B., J. G. Yarro, H. Y. Kayumbo, and S. A. Juliano. 1996. Functional responses of two chrysopid predators feeding on *Helicoverpa armigera* (Lep.: Noctuidae) and *Aphis* gossypii (Hom.: Aphididae). Entomolophaga 41:141-151.

- Kalbfleisch, J. D., and R. L. Prentice. 1980. The Statistical Analysis of Failure Time Data. Wiley, New York, New York, USA.
- Kardia, S. 1998. The graphical interface. Nature software reviews on-line: http://www.nature.com/.
- Kareiva, P. 1994. Higher order interactions as a foil to reductionist ecology. Ecology 75:1527-1528.
- Karlin, S., E. C. Cameron, and R. Chakraborty. 1983. Path analysis in genetic epidemiology: A critique. American Journal of Human Genetics 35:695-732.
- Keller, E. F. 1983. A Feeling for the Organism: the Life and Work of Barbara McClintock. Freeman, New York, New York, USA.
- Kempton, R. A., and C. W. Howes. 1981. The use of neighboring plot values in the analysis of variety trials. Applied Statistics 30:59-70.
- Kenny, D. A., and C. M. Judd. 1986. Consequences of violating the independence assumption in analysis of variance. Psychological Bulletin 99:422-431.
- Keppel, G. 1991. Design and Analysis: A Researcher's Handbook. Prentice-Hall, Englewood Cliffs, New Jersey, USA.
- Khattree, R., and D. N. Naik. 1999. Applied Multivariate Statistics with SAS Software. SAS Institute, Inc., Cary, North Carolina, USA.
- Kiefer, J. 1975. Construction and optimality of generalized Youden designs. Pages 333-353 in J.N. Srivastava, editor, A Survey of Statistical Design and Linear Models. North-Holland,Amsterdam, The Netherlands.
- Kiefer, J., and H. P. Wynn. 1981. Optimum balanced block and latin square designs for correlated observations. Annals of Statistics 9:737-757.
- King, R. B., and B. King. 1991. Sexual differences in color and color change in wood frogs. Canadian Journal of Zoology 69:1963-1968.
- Kingsolver, J. G., and D. G. Schemske. 1991. Analyzing selection with path analysis. Trends in Ecology and Evolution 6:276-280.
- Knoke, D., and P. J. Burke. 1980. Log-linear models. Sage University Paper Series on Quantitative Applications in the Social Sciences 07-020. Sage, Thousand Oaks, California, USA.
- Koch, G. G., I. A. Amara, M. E. Stokes, and D. B. Gillings. 1980. Some views on parametric and

non-parametric analyses for repeated measurements and selected bibliography. International Statistical Review 48:249-265.

- Kohn, J. R., and N. M. Waser. 1986. The effect of *Delphinium nelsonii* pollen on seed set in *Ipomopsis aggregata*, a competitor for hummingbird pollination. American Journal of Botany 72:1144-1148.
- Kokoska, S. M., and L. B. Johnson. 1987. A comparison of statistical techniques for analysis of growth curves. Growth 51:261-269.
- Kot, M., M. A. Lewis, and P. van den Driessche. 1996. Dispersal data and the spread of invading organisms. Ecology 77:2027-2042.
- Kraemer, H. C., and S. Thiemann. 1987. How Many Subjects? Sage Publications, London, UK.
- Krannitz, P. G., L. W. Aarssen, and J. M. Dow. 1991. The effect of genetically based differences on seedling survival in *Arabidopsis thaliana*. American Journal of Botany 78:446-449.
- Krebs, C. J., S. Boutin, R. Boonstra, A. R. E. Sinclair, J. N. M. Smith, M. R. T. Dale, K. Martin, and R. Turkington. 1995. Impact of food and predation on the snowshoe hare cycle. Science 269:1112-1115.
- Kucera, C. L., and S. C. Martin. 1957. Vegetation and soil relationships in the glade region of the southwestern Missouri Ozarks. Ecology 38:285-291.
- Kuehl, R. O. 1994. Statistical Principles of Research Design and Analysis. Duxbury Press, Belmont, California, USA.
- Laird, N. M., and J. H. Ware. 1982. Random effects models for longitudinal data. Biometrics 38:963-974.
- Lakatos, I. 1974. Popper on demarcation and induction. Pages 241-273 in P. A. Schilpp, editor, The Philosophy of Karl Popper. Open Court Publishing Co., LaSalle, Illinois, USA.
- Lande, R. 1982. A quantitative genetic theory of life history evolution. Ecology 63:607-615.
- Lande, R. 1987. Extinction thresholds in demographic models of territorial populations. American Naturalist 130:624-635.
- Lande, R. 1988. Demographic models of the northern spotted owl (*Strix occidentalis caurina*). Oecologia 75:601-607.
- Lande, R., and S. J. Arnold. 1983. The measurement of selection on correlated characters. Evolution 37:1210-1226.
- Laska, M. S., and J. T. Wootton. 1998. Theoretical concepts and empirical approaches to

measuring interaction strength. Ecology 79:461-476.

- Lauter, J. 1978. Sample size requirements for the T2 test of MANOVA (Tables for one-way classification). Biometrical Journal 20:389-406.
- Lavine, M., and S. Lozier. 2000. A Markov random field spatio-temporal analysis of ocean temperature. Environmental and Ecological Statistics in press.
- Law, R. 1983. A model for the dynamics of a plant population containing individuals classified by age and size. Ecology 64:224-230.
- Law, R., and A. R. Watkinson. 1987. Response-surface analysis of two-species competition: An experiment on *Phleum arenarium* and *Vulpia fasciculata*. Journal of Ecology 75:871-886.
- Lawless, J. F. 1982. Statistical Models and Methods for Lifetime Data. Wiley, New York, New York, USA.
- Leduc, A., P. Drapeau, Y. Bergeron, and P. Legendre. 1992. Study of spatial components of forest cover using partial Mantel tests and path analysis. Journal of Vegetation Science 3:69-78.
- Lee, C.-S., and J. O. Rawlings. 1982. Design of experiments in growth chambers. Uniformity trials in the North Carolina State University phytotron. Crop Science 22:551-558.
- Lee, E. T. 1980. Statistical Methods for Survival Data Analysis. Lifetime Learning, Belmont, California, USA.
- Lee, P. M. 1989. Bayesian Statistics: An Introduction. Oxford University Press, Oxford; UK.
- Lefkovitch, L. P. 1965. The study of population growth in organisms grouped by stages. Biometrics 21:1-18.
- Legendre, L., and P. Legendre. 1983. Numerical Ecology. Developments in Environmental Modelling, Vol. 3. Elsevier, Amsterdam, The Netherlands.
- Legendre, P. 1993. Spatial autocorrelation: Trouble or new paradigm? Ecology 74:1659-1673.
- Legendre, P., and M.-J. Fortin. 1989. Spatial pattern and ecological analysis. Vegetatio 80:107-138.
- Legendre, P., and M. Troussellier. 1988. Aquatic heterotrophic bacteria: Modeling in the presence of spatial autocorrelation. Limnology and Oceanography 33:1055-1067.
- Legendre, P., and A. Vaudor. 1991. The R Package: Multidimensional Analysis, Spatial Analysis. Departement de sciences biologiques, Université de Montreal, Quebec, Quebec, Canada.

- Legendre, P., R. R. Sokal, N. L. Oden, A. Vaudor, and J. Kim. 1990. Analysis of variance with spatial autocorrelation in both the variable and the classification criterion. Journal of Classification 7:53-75.
- Léger, C., D. N. Politis, and J. P. Romano. 1992. Bootstrap technology and applications. Technometrics 34:378-398.
- Lenski, R. E., and P. M. Service. 1982. The statistical analysis of population growth rates calculated from schedules for survivorship and fecundity. Ecology 63:655-662.
- Lewis, M. A. 1997. Variability, patchiness and jump dispersal in the spread of an invading population. Pages 46-74 in D. Tilman and P. Kareiva, editors, Spatial Ecology. Princeton University Press, Princeton University Press.
- Li, C. C. 1975. Path Analysis. A Primer. The Boxwood Press, Pacific Grove, California, USA.
- Light, R. J., and D. B. Pillemer. 1984. Summing Up: The Science of Reviewing Research. Harvard University Press, Cambridge, Massachusetts, USA.
- Likens, G. E., F. H. Bormann, N. M. Johnson, D. W. Fisher, and R. S. Pierce. 1977. Effects of forest cutting and herbicide treatment on nutrient budgets in the Hubbard brook watershed ecosystem. Ecological Monographs 40:23-47.
- Lindsey, J. K. 1993. Models for repeated measurements. Oxford University Press, Oxford, UK.
- Lindsey, L. K. 1995. Introductory statistics: a modelling approach. Cambridge University Press, Cambridge, UK.
- Link, W. A., and J. S. Hatfield. 1990. Power calculations and model selection for trend analysis: a comment. Ecology 71:1217-1220.
- Lipsey, M. W. 1990. Design Sensitivity: Statistical Power for Experimental Research. Sage Publications, Newbury Park, California, USA.
- Littell, R. C., G. A. Milliken, W. W. Stroup, and R. D. Wolfinger. 1996. SAS System for Mixed Models. SAS Institute, Inc., Cary, North Carolina, USA.
- Livdahl, T. P. 1979. Evolution of handling time: The functional response of a predator to the density of sympatric and allopatric strains of prey. Evolution 33:765-768.
- Livdahl, T. P., and A. E. Stiven. 1983. Statistical difficulties in the analysis of functional response data. Canadian Entomologist 115:1365-1370.
- Livshits, G., R. R. Sokal, and E. Kobyliansky. 1991. Genetic affinities of Jewish populations. American Journal of Human Genetics 49:131-146.

- Ljung, G. M., and G. E. P. Box. 1978. On a measure of lack of fit in time series models. Biometrika 65:297-303.
- Loehlin, J. C. 1987. Latent Variable Models. Lawrence Erlbaum, Hillsdale, New Jersey, USA.
- Long, J. S. 1983. Covariance Structure Models. An Introduction to LISREL. Sage Press, Beverly Hills, California, USA.
- Lovvorn, J. R., and M. P. Gillingham. 1996. Food dispersion and foraging energetics a mechanistic synthesis for field studies of avian benthivores. Ecology 77:435-451.
- Ludwig, J. A., and J. F. Reynolds. 1988. Statistical Ecology. John Wiley & Sons, New York, New York, USA.
- MacCullum, R. 1986. Specification searches in covariance structure modeling. Psychological Bulletin 100:107-120.
- MacIsaac, H. J., T. C. Hutchinson, and W. Keller. 1987. Analysis of planktonic rotifer assemblages form Sudbury, Ontario, area lakes of varying chemical composition. Canadian Journal of Fisheries and Aquatic Sciences 44:1692-1701.
- Maddox, G. D., and J. Antonovics. 1983. Experimental ecological genetics in *Plantago*: A structural equation approach to fitness components in *P. aristata* and *P. patagonica*. Ecology 64:1092-1099.
- Madenjian, C. P., D. J. Jude, and F. J. Tesar. 1986. Intervention analysis of power plant impact on fish populations. Canadian Journal of Fisheries and Aquatic Sciences 43:819-829.
- Magurran, A. E. 1988. Ecological Diversity and Its Measurement. Princeton University Press, Princeton, New Jersey, USA.
- Mangel, M. 1991. Adaptive walks on behavioural landscapes and the evolution of optimal behaviour by natural selection. Evolutionary Ecology 5:30-39.
- Manly, B. F. J. 1986a. Multivariate Statistical Methods. Chapman and Hall, London, UK.
- Manly, B. F. J. 1986b. Randomization and regression methods for testing for associations with geographical, environmental, and biological distances between populations. Researches in Population Ecology 28:201-218.
- Manly, B. F. J. 1990a. On the statistical analysis of niche data. Canadian Journal of Zoology 68:1420-1422.
- Manly, B. F. J. 1990b. Stage-Structured Populations. Chapman and Hall, New York, New York, USA.

- Manly, B. F. J. 1997. Randomization, Bootstrap and Monte Carlo Methods in Biology, 2nd ed. Chapman and Hall, London, UK.
- Mantel, N. 1967. The detection of disease clustering and a generalized regression approach. Cancer Research 27:209-220.
- Mantel, N., and W. Haenszel. 1959. Statistical analysis of the analysis of data from retrospective studies of disease. Journal of the National Cancer Institute 22:719-748.
- Markham, J. H., and C. P. Chanway. 1996. Measuring plant neighbour effects. Functional Ecology 10:548-549.
- Marshal, J. P., and S. Boutin. 1999. Power analysis of wolf-moose functional response. Journal of Wildlife Management 63:396-402.
- Matheron, G. 1963. Principles of geostatistics. Economic Geology 58:1246-1266.
- Matloff, N. S. 1991. Statistical hypothesis testing: problems and alternatives. Environmental Entomology 20:1246-1250.
- Matson, P. A., and S. R. Carpenter. 1990. Statistical analysis of ecological responses to largescale perturbations. Ecology 71:2037.
- Maxwell, S. E., and H. D. Delaney. 1990. Designing Experiments and Analyzing Data: A Model Comparison Perspective. Wadsworth, Belmont, California, USA.
- McCleary, R., and R. A. Hay. 1980. Applied Time Series Analysis for the Social Sciences. Sage Publications, Beverly Hills, California, USA.
- McCreary, N. J., S. R. Carpenter, and J. E. Chaney. 1983. Coexistence and interference in two submerged freshwater perennial plants. Oecologia 59:393-396.
- McDonald, D. B., J. W. Fitzpatrick, and G. E. Woolfenden. 1996. Actuarial senescence and demographic heterogeneity in the Florida scrub jay. Ecology 77:2373-2381.
- McGill, R., J. W. Tukey, and W. A. Larsen. 1978. Variations of box plots. American Statistician 32:12-16.
- McGraw, J. B., and F. S. Chapin III. 1989. Competitive ability and adaptation to fertile and infertile soils in two *Eriophorum* species. Ecology 70:736-749.
- McIntosh, R. P. 1985. The Background of Ecology. Cambridge University Press, Cambridge, UK.
- McLean, R. A., W. L. Sanders, and W. W. Stroup. 1991. A unified approach to mixed linear models. American Statistician 45:54-64.

- McNamara, J. M., and A. I. Houston. 1987. Foraging in patches: There's more to life than the marginal value theorem. Pages 23-39 in M. L. Commons, A. Kacelnik, and S. J. Shettleworth, editors, Quantitative Analyses of Behavior, Volume 6: Foraging. Lawrence Erlbaum, Hillsdale, New Jersey, USA.
- McPeek, M. A., and B. L. Peckarsky. 1998. Life histories and the strengths of species interactions: combining mortality, growth, and fecundity effects. Ecology 79:867-879.
- Mead, R. 1988. The Design of Experiments: Statistical Principles for Practical Application. Cambridge University Press, Cambridge, UK.
- Mead, R., and R. N. Curnow. 1983. Statistical Methods in Agricultural and Experimental Biology. Chapman and Hall, London, UK.
- Menard, S. 1995. Applied Logistic Regression Analysis. Sage, Thousand Oaks, California, USA.
- Messina, F. J., and J. B. Hanks. 1998. Host plant alters the shape of the functional response of an aphid predator (Coleoptera: Coccinellidae). Environmental Entomology 27:1196-1202.
- Meyer, J. S., C. G. Ingersoll, L. L. McDonald, and M. S. Boyce. 1986. Estimating uncertainty in population growth rates: Jackknife vs. Bootstrap techniques. Ecology 67:1156-1166.
- Mielke, P. W., K. J. Berry, P. J. Brockwell, and J. S. Williams. 1981. A class of nonparametric tests based on multiresponse permutation procedures. Biometrika 68:720-724.
- Milan, L., and J. Whittaker. 1995. Application of the parametric bootstrap to models that incorporate a singular value decomposition. Applied Statistics 44:31-49.
- Miller, R. G. 1974. The jackknife -- a review. Biometrika 61:1-17.
- Miller, T. E. 1996. On quantifying the intensity of competition across gradients. Ecology 77:978-981.
- Miller, T. E., and P. A. Werner. 1987. Competitive effects and responses between plant species in a first-year old-field community. Ecology 68:1201-1210.
- Milligan, G. W., D. S. Wong, and P. A. Thompson. 1987. Robustness properties of nonorthogonal analysis of variance. Psychological Bulletin 101:464-470.
- Milliken, G. A., and D. E. Johnston. 1984. Analysis of Messy Data, Volume 1: Designed Experiments. Lifetime Learning Publications, Belmont, California, USA.
- Mitchell, R. J. 1992. Testing evolutionary and ecological hypotheses using path analysis and structural equation modeling. Functional Ecology 6:123-129.
- Mitchell, R. J. 1993. Adaptive significance of *Ipomopsis aggregata* nectar production rate:

observational and experimental studies in the field. Evolution 47:25-35.

- Mitchell, R. J. 1994. Effects of floral traits, pollinator visitation, and plant size on *Ipomopsis* aggregata fruit production. American Naturalist 143:870-889.
- Mitchell, R. J., and N. M. Waser. 1992. Adaptive significance of *Ipomopsis aggregata* nectar production rate: Pollination success of single flowers. Ecology 73:633-638.
- Mitchell, W. A. 1990. An optimal control theory of diet selection: the effects of resource depletion and exploitative competition. Oikos 58:16-24.
- Mitchell, W. A., and J. S. Brown. 1990. Density-dependent harvest rates by optimal foragers. Oikos 57:180-190.
- Mitchell, W. A., and J. Valone T. 1990. The optimization research program: Studying adaptations by their function. Quarterly Review of Biology 65:43-52.
- Mitchell-Olds, T. 1987. Analysis of local variation in plant size. Ecology 68:82-87.
- Mitchell-Olds, T., and R. G. Shaw. 1987. Regression analysis of natural selection: statistical inference and biological interpretation. Evolution 41:1149-1161.
- Molenberghs, G., E. J. T. Goetghebeur, S. R. Lipsitz, and M. G. Kenward. 1999. Nonrandom missingness in categorical data: strengths and limitations. American Statistician 53:110-118.
- Moloney, K. A. 1986. A generalized algorithm for determing category size. Oecologia 69:176-180.
- Morrison, D. F. 1990. Multivariate Statistical Methods, 3rd ed. McGraw-Hill Publishing Co., New York, New York, USA.
- Morrow, L. L. 1990. Field experiments on competition: a meta-analysis. Master's Thesis. State University of New York at Stony Brook, Stony Brook, New York, USA.
- Mueller, L. D. 1979. A comparison of two methods for making statistical inferences on Nei's measure of genetic distance. Biometrics 35:757-763.
- Muenchow, G. 1986. Ecological use of failure time analysis. Ecology 67:246-250.
- Muir, W. M. 1986. Estimation of response to selection and utilization of control populations for additional information and accuracy. Biometrics 42:381-391.
- Muller, K. E., and V. A. Benignus. 1992. Increasing scientific power with statistical power. Neurotoxicology and Teratology 14:211-219.
- Murren, C. J., and A. M. Ellison. 1996. Effects of habitat, plant size, and floral display on male and female reproductive success of the neotropical orchid *Brassavola nodosa*. Biotropica

28:30-41.

- Muthen, B., and D. Kaplan. 1985. A comparison of some methodologies for the factor analysis of non-normal Likert variables. British Journal of Mathematical and Statistical Psychology 38:171-193.
- Nannini, M. A., and S. A. Juliano. 1998. Effects of the facultative predator *Anopheles barberi* on population performance of its prey *Aedes triseriatus* (Diptera: Culicidae). Annals of the Entomological Society of America 91:33-42.
- Nelder, J. A., and R. W. M. Wedderburn. 1972. Generalised linear models. Journal of the Royal Statistical Society A135:370-384.
- Nemac, A. F. L. 1991. Power Analysis Handbook for the Design and Analysis of Forestry Trials. Biometrics Information Handbook 2 BC Ministry of Forests: Victoria.
- Neter, J., and W. Wasserman. 1974. Applied Linear Statistical Models. Richard S Irwin, Homewood, California, USA.
- Neter, J., W. Wasserman, and M. H. Kutner. 1985. Applied Linear Statistical Models. Richard S Irwin, Homewood, California, USA.
- Newman, J. A., J. Bergelson, and A. Grafen. 1997. Blocking factors and hypothesis tests in ecology: is your statistics text wrong? Ecology 78:1312-1320.
- Neyman, J., and E. S. Pearson. 1928. On the use and interpretation of certain test criteria for purposes of statistical inference. Biometrika 20A:175-240.
- Noakes, D. 1986. Quantifying changes in British Columbia Dungeness crab landings using intervention analysis. Canadian Journal of Fisheries and Aquatic Sciences 43:634-639.
- Norusis, M. J. 1990. SPSS Advanced Statistics User's Guide. SPSS Inc., Chicago, Illinois, USA.
- O'Brien, R. G. 1998. A tour of UnifyPow: a SAS module/macro for sample-size analysis. Pages 1346-1355 in Proceedings of the 23rd SAS Users Group International Conference. SAS Institute, Inc., Cary, North Carolina, USA. [http://www.bio.ri.ccf.org/power.html].
- O'Brien, R. G., and M. K. Kaiser. 1985. MANOVA method for analyzing repeated measures designs: An extensive primer. Psychological Bulletin 97:316-333.
- O'Brien, R. G., and K. E. Muller. 1993. Unified power analysis for t-tests through multivariate hypotheses. Pages 297-344 in L. K. Edwards, editor, Applied Analysis of Variance in Behavioral Science. Marcel Dekker, New York, New York, USA.

Oden, N. L., and R. R. Sokal. 1992. An investigation of three-matrix permutation tests. Journal

of Classification 9:275-280.

- Osenberg, C. W., R. J. Schmitt, S. J. Holbrook, K. E. Abu-Saba, and A. R. Flegal. 1994. Detection of environmental impacts: natural variability, effect size, and power analysis. Ecological Applications 4:16-30.
- Osenberg, C. W., O. Sarnelle, S. D. Cooper, and R. D. Holt. 1999. Resolving ecological questions through meta-analysis: goals, metrics, and models. Ecology 80:1105-1117.
- Pacala, S. W., and J. A. Silander. 1990. Field tests of neighborhood population dynamic models of two annual weed species. Ecological Monographs 60:113-134.
- Packer, C., M. Tatar, and A. Collins. 1998. Reproductive cessation in female mammals. Nature 392:807-811.
- Pallesen, L., P. M. Berthouex, and K. Booman. 1985. Environmental intervention analysis: Wisconsin's ban on phosphate detergents. Water Research 19:353-362.
- Palmer, M. W. 1991. Estimating species richness: the second-order jackknife reconsidered. Ecology 72:1512-1513.
- Palmer, M. W. 1993. Putting things in even better order: the advantages of canonical correspondence analysis. Ecology 74:2215-2230.
- Parilla, G., A. Lavin, H. Bryden, and R. Millard. 1994. Rising temperatures in the subtropical North Atlantic Ocean over the past 35 years. Nature 369:48-51.
- Pedhazur, E. J. 1982. Multiple Regression in Behavioral Research, 2nd ed. Holt, Rinehart & Winston, New York, New York, USA.
- Peterman, R. M. 1990. Statistical power analysis can improve fisheries research and management. Canadian Journal of Fisheries and Aquatic Sciences 47:2-15.
- Peterman, R. M., and M. J. Bradford. 1987. Statistical power of trends in fish abundance. Canadian Journal of Fisheries and Aquatic Sciences 44:1879-1889.
- Peters, R. H. 1991. A Critique for Ecology. Cambridge University Press, Cambridge, UK.
- Peto, R., and J. Peto. 1972. Asymptotically efficient rank invariant procedures (with discussion). Journal of the Royal Statistical Society, Series A 135:185-206.
- Peto, R., and M. C. Pike. 1973. Conservatism of the approximation (O E)2/E in the log rank test for survival data or tumor incidence data. Biometrics 29:579-584.
- Petraitis, P. S. 1998. Rates of mussel mortality and predator activity in sheltered bays of the Gulf of Maine, USA. Journal of Experimental Marine Biology and Ecology 231:47-62.

- Petraitis, P. S., A. E. Dunham, and P. H. Niewiarowski. 1996. Inferring multiple causality: the limitations of path analysis. Functional Ecology 10:421-431.
- Pianka, E. R. 1966. Latitudinal gradients in species diversity: a review of concepts. American Naturalist 100:65-75.
- Pickett, S. T. A., J. Kolasa, and C. G. Jones. 1994. Ecological Understanding. Academic Press, San Diego, California, USA.
- Platt, J. R. 1964. Strong inference. Science 146:347-353.
- Platt, W. J., and I. M. Weis. 1985. An experimental study of competition among fugative prairie plants. Ecology 66:708-720.
- Pons, T. L., and J. van der Toorn. 1988. Establishment of *Plantago lanceolata* L. and *Plantago major* L. among grass. I. Significance of light for germination. Oecologia 75:394-399.
- Poole, R. W. 1978. The statistical prediction of population fluctuations. Annual Review of Ecology and Systematics 9:427-448.
- Poorter, H., and C. Remkes. 1990. Leaf area ratio and net assimilation rate of 24 wild species differing in relative growth rate. Oecologia 83:553-559.
- Popper, K. R. 1959. The Logic of Scientific Discovery. Hutchinson & Co., London, UK.
- Porter, K. G. G. J., and J. D. J. Orcutt. 1982. The effect of food concentration on swimming patterns, feeding behaviour, ingestion, assimilation and respiration by *Daphnia*. Limnology and Oceanography 27:935-949.
- Porter, W. R., and W. F. Trager. 1977. Improved nonparametric statistical methods for estimation of Michaelis-Menten enzyme kinetics parameters by the direct linear plot. Biochemical Journal 161:293-302.
- Posten, H. O. 1984. Robustness of the two-sample t test. Pages 92-99 in D. Rash and M. L. Tiku, editors, Robustness of Statistical Methods and Nonparametric Statistics. D. Reidel, Dordrecht, The Netherlands.
- Potvin, C., and S. Tardif. 1988. Sources of variability and experimental design in growth chambers. Functional Ecology 2:123-130.
- Potvin, C., M. J. Lechowicz, G. Bell, and D. Schoen. 1990a. Spatial, temporal, and speciesspecific pattern of heterogeneity in growth chamber experiments. Canadian Journal of Botany 68:499-504.
- Potvin, C., M. J. Lechowicz, and S. Tardif. 1990b. The statistical analysis of ecophysiological

response curves obtained from experiments involving repeated measures. Ecology 71:1389-1400.

- Pugesek, B. H., and J. B. Grace. 1998. On the utility of path modelling for ecological and evolutionary studies. Functional Ecology 12:843-856.
- Pugesek, B. H., and A. Tomer. 1995. Determination of selection gradients using multiple regression versus structural equation models (SEM). Biometry Journal 37:449-462.
- Pugesek, B. H., and A. Tomer. 1996. The Bumpus house sparrow data: a reanalysis using structural equation models. Evolutionary Ecology 10:387-404.
- Pyke, D. A., and J. N. Thompson. 1986. Statistical analysis of survival and removal rate experiments. Ecology 67:240-245. Errata in Ecology 68:232.
- Pyke, G. H., H. R. Pulliam, and E. L. Charnov. 1977. Optimal foraging: A selective review of theory and tests. Quarterly Review of Biology 52:137-156.
- Quinn, J. F., and A. E. Dunham. 1983. On hypothesis testing in ecology and evolution. American Naturalist 122:602-617.
- Raftery, A. E., and J. E. Zeh. 1993. Estimation of Bowhead whale, *Balaena mysticetus*, population size. Pages 163-240 in C. Gatsonis, J. Hodges, R. Kass, and N. Singpurwalla, editors, Case Studies in Bayesian Statistics. Springer-Verlag, New York; New York, USA.
- Rao, P. V. 1998. Statistical Research Methods in the Life Sciences. Duxbury Press, New York, New York, USA.
- Raudenbush, S. W. 1991. Summarizing evidence: Crusaders for simplicity. Educational Researcher 20:33-37.
- Reed, D. C., and M. S. Foster. 1984. The effects of canopy shading on algal recruitment and growth in a giant kelp forest. Ecology 65:937-948.
- Rempel, R. S., A. R. Rodgers, and K. F. Abraham. 1995. Performance of a GPS animal location system under boreal forest canopy. Journal of Wildlife Management 59:543-551.
- Rice, W. R. 1990. A consensus combined P-value test and the family-wide significance of component tests. Biometrics 46:303-308.
- Rice, W. R., and S. D. Gaines. 1994a. Heads I win, tails you lose testing directional alternative hypotheses in ecological and evolutionary research. Trends in Ecology and Evolution 9:235-237.
- Rice, W. R., and S. D. Gaines. 1994b. The ordered-heterogeneity family of tests. Biometrics

50:746-752.

- Richardson, J. T. E. 1996. Measures of effect size. Behavior Research Methods, Instruments, and Computers 28:12-22.
- Ricklefs, R. E. 1998. Evolutionary theories of aging: confirmation of a fundamental prediction, with implications for the genetic basis and evolution of life span. American Naturalist 152:24-44.
- Rogers, D. J. 1972. Random search and insect population models. Journal of Animal Ecology 41:369-383.
- Rosenberg, M. S., D. C. Adams, and J. Gurevitch. 1999. MetaWin 2.0. Statistical software for conducting meta-analysis: fixed effect models, mixed effect models, and resampling tests. Sinauer Associates, Sunderland, Massachusetts, USA.
- Rotenberry, J. T., and J. A. Wiens. 1985. Statistical power analysis and community-wide patterns. American Naturalist 125:164-168.
- Roughgarden, J. 1983. Competition and theory in community ecology. American Naturalist 122:583-601.
- Royall, R. M. 1997. Statistical Evidence: A Likelihood Paradigm. International Thompson Publishing, New York, New York, USA.
- Rubin, D. B. 1981. A Bayesian bootstrap. Annals of Statistics 9:130-134.
- Rudstam, L. G., R. C. Lathrop, and S. R. Carpenter. 1993. The rise and fall of a dominant planktivore: direct and indirect effects on zooplankton. Ecology 74:303-319.
- Russo, R. 1986. Comparison of predatory behavior in five species of *Toxorhynchites* (Diptera: Culicidae). Annals of the Entomological Society of America 79:715-722.
- Sacks, H. S., J. Berrier, D. Reitman, V. A. Ancona-Berk, and T. C. Chalmer. 1987. Metaanalyses of randomized controlled trials. New England Journal of Medicine 316:450-455.
- Salsburg, D. S. 1985. The religion of statistics as practiced in medical journals. American Statistician 39:220-223.
- Salt, G. W. 1983. Roles: their limits and responsibilities in ecological and evolutionary research. American Naturalist 122:697-705.
- SAS Institute Inc. 1988. SAS/ETS User's Guide, Version 6, 1st ed. SAS Institute, Inc., Cary, North Carolina, USA.
- SAS Institute Inc. 1989a. SAS/STAT User's Guide, Version 6, 4th ed., Vol. 1. SAS Institute,

Inc., Cary, North Carolina, USA.

- SAS Institute Inc. 1989b. SAS/STAT User's Guide, Version 6, 4th ed., Vol. 2. SAS Institute, Inc., Cary, North Carolina, USA.
- SAS Institute Inc. 1990. SAS Procedures Guide, Version 6, 3rd ed. SAS Institute, Inc., Cary, North Carolina, USA.
- SAS Institute Inc. 1992. SAS Technical Report P-229, SAS/STAT Software: Changes and Enhancements, Release 6.07. SAS Institute, Inc., Cary, North Carolina, USA.
- SAS Institute Inc. 1995. Jackboot Macro. SAS Institute, Inc., Cary, North Carolina, USA.
- SAS Institute Inc. 1996. SAS/STAT Software: Changes and Enhancements, Release 6.12. SAS Institute, Inc., Cary, North Carolina, USA.
- Satterthwaite, F. E. 1946. An approximate distribution of estimates of variance components. Biometrics Bulletin 2:110-114.
- Saville, D. J. 1990. Multiple comparison procedures: the practical solution. American Statistician 44:174-180.
- Scharf, F. S., F. Juanes, and M. Sutherland. 1998. Inferring ecological relationships from the edges of scatter diagrams: comparisons of regression techniques. Ecology 79:448-460.
- Scheiner, S. M., and H. S. Callahan. 1999. Measuring natural selection on phenotypic plasticity. Evolution 53:1704–1713.
- Scheiner, S. M., R. J. Mitchell, and H. Callahan. 2000. Using path analyis to measure natural selection. Journal of Evolutionary Biology (in press).
- Schemske, D. W., and C. C. Horvitz. 1988. Plant-animal interactions and fruit production in a neotropical herb: A path analysis. Ecology 69:1128-1137.
- Schenker, N. 1985. Qualms about bootstrap confidence intervals. Journal of the American Statistical Association 80:360-361.
- Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implication for lake management. Science 184:897-898.
- Schindler, D. W. 1987. Detecting ecosystem responses to anthropogenic stress. Canadian Journal of Fisheries and Aquatic Sciences 44(Suppl. 1):6-25.
- Schindler, D. W. 1998. Replication versus realism: the need for ecosystem-scale experiments. Ecosystems 1:323-334.
- Schindler, D. W., K. H. Mills, D. F. Malley, D. L. Findlay, J. A. Shearer, I. J. Davies, M. A.

Turner, G. A. Linsey, and D. R. Cruikshank. 1985. Long-term ecosystem stress: the effects of years of experimental acidification on a small lake. Science 228:1395-1401.

- Schoener, T. W. 1983. Field experiments on interspecific competition. American Naturalist 122:240-285.
- Schoener, T. W. 1986. Mechanistic approaches to community ecology: A new reductionism. American Zoologist 26:81-106.
- Scott, S. J., and R. A. Jones. 1990. Generation means analysis of right-censored response-time traits: Low temperature seed germination in tomato. Euphytica 48:239-244.
- Searcy-Bernal, R. 1994. Statistical power and aquacultural research. Aquaculture 127:371-388.
- Searle, S. R. 1971. Linear Models. John Wiley & Sons, New York, New York, USA.
- Searle, S. R. 1987. Linear Models for Unbalanced Data. John Wiley & Sons, New York, New York, USA.
- Sedinger, J. S., and P. L. Flint. 1991. Growth rate is negatively correlated with hatch date in Black Brant. Ecology 72:496-502.
- Sedlmeier, P., and G. Gigerenzer. 1989. Do studies of statistical power have an effect on the power of studies? Psychological Bulletin 105:309-316.
- Service, P. M., C. A. Michieli, and K. McGill. 1998. Experimental evolution of senescence: an analysis using a "heterogeneity" mortality model. Evolution 52:1844-1850.
- Shao, J., and D. Tu. 1995. The Jackknife and Bootstrap. Springer-Verlag, New York, New York, USA.
- Shaw, R. G. 1987. Maximum-likelihood approaches applied to quantitative genetics of natural populations. Evolution 41:812-826.
- Shaw, R. G., and T. Mitchell-Olds. 1993. Anova for unbalanced data: An overview. Ecology 74:1638-1645.
- Sheffé, H. 1959. The Analysis of Variance. John Wiley & Sons, London, UK.
- Shipley, B. 1995. Structured interspecific determinants of specific leaf area in 34 species of herbaceous angiosperms. Functional Ecology 9:312-319.
- Shipley, B. 1997. Exploratory path analysis with applications in ecology and evolution. American Naturalist 149:1113-1138.
- Shrader-Frechette, K. S., and E. D. McCoy. 1992. Statistics, costs and rationality in ecological inference. Trends in Ecology and Evolution 7:96-99.

- Siegel, S. 1956. Nonparametric Statistics for the Behavioral Sciences. McGraw-Hill Book Co., New York, New York, USA.
- Silvertown, J. 1987. Introduction to Plant Population Ecology, 2nd ed. Longman, Harlow, UK.
- Simberloff, D. 1983. Competition theory, hypothesis-testing, and other community ecology buzzwords. American Naturalist 122:626-635.
- Simes, R. J. 1986. An improved Bonferroni procedure for multiple tests of significance. Biometrika 73:751-754.
- Simken, D., and R. Hastie. 1987. An information-processing analysis of graph perception. Journal of the American Statistical Association 82:454-465.
- Simms, E. L., and D. S. Burdick. 1988. Profile analysis of variance as a tool for analyzing correlated responses in experimental ecology. Biometrical Journal 30:229-242.
- Simms, E. L., and M. D. Rausher. 1992. Uses of quantitative genetics for studying the evolution of plant resistance. Pages 42-68 in R. S. Fritz and E. L. Simms, editors, Plant Resistance to Herbivores and Pathogens: Ecology, Evolution, and Genetics. University of Chicago Press, Chicago, Illinois, USA.
- Simpson, E. H. 1951. The interpretation of interaction in contingency tables. American Statistician 13:238-241.
- Sinervo, B., and D. F. DeNardo. 1996. Costs of reproduction in the wild: path analysis of natural selection and experimental tests of causation. Evolution 50:1299-1313.
- Sitter, R. R. 1992. Comparing three bootstrap methods for survey data. Canadian Journal of Statistics 20:135-154.
- Sjoberg, S. 1980. Zooplankton feeding and queueing theory. Ecological Modelling 10:215-225.
- Slansky, F. J., and P. Feeny. 1977. Stabilization of the rate of nitrogen accumulation by larvae of the cabbage butterfly on wild and cultivated food plants. Ecological Monographs 47:209-228.
- Smith, E. P. 1985. Estimating the reliability of diet overlap measures. Environmental Biology of Fishes 13:125-138.
- Smith, E. P., and G. van Belle. 1984. Nonparametric estimation of species richness. Biometrics 40:119-129.
- Smith, E. P., R. B. Genter, and J. Cairns. 1986. Confidence intervals for the similarity between algal communities. Hydrobiologia 139:237-245.

- Smith, F. A., J. H. Brown, and T. J. Valone. 1997. Path analysis: a critical evaluation using longterm experimental data. American Naturalist 149:29-42.
- Smith, L. 1994. Temperature influences functional response of *Anisopteromalus calandrae* (Hymenoptera, Pteromalidae) parasitizing maize weevil larvae in shelled corn. Annals of the Entomological Society of America 87:849-855.
- Smith, W. D., D. Kravitz, and J. F. Grassle. 1979. Confidence intervals for similarity measures using the two sample jackknife. Pages 253-262 in L. Orloci, C. R. Rao, and W. M. Stiteler, editors, Multivariate Methods in Ecological Work. International Cooperative Publishing House, Fairland, Maryland, USA.
- Smouse, P. E., J. C. Long, and R. R. Sokal. 1986. Multiple regression and correlation extensions of the Mantel test of matrix correspondence. Systematic Zoology 35:627-633.
- Snedecor, G. W., and W. G. Cochran. 1989. Statistical Methods. Iowa State University Press, Ames, Iowa, USA.
- Sokal, R. R. 1979. Testing statistical significance of geographic variation patterns. Systematic Zoology 28:227-231.
- Sokal, R. R., and F. J. Rohlf. 1995. Biometry. W.H.Freeman, New York, New York, USA.
- Sokal, R. R., I. A. Lengyel, P. A. Derish, M. C. Wooten, and N. L. Oden. 1987. Spatial autocorrelation of ABO serotypes in medieval cemeteries as an indicator of ethnic and familial structure. Journal of Archeological Science 14:615-633.
- Sokal, R. R., N. L. Oden, P. Legendre, M.-J. Fortin, J. Kim, B. A. Thomson, A. Vaudor, R. M. Harding, and G. Barbujani. 1990. Genetics and language in European populations. American Naturalist 135:157-175.
- Sokal, R. R., N. L. Oden, B. A. Thomson, and J. Kim. 1993. Testing for regional differences in means: Distinguishing inherent from spurious spatial autocorrelation by restricted randomization. Geographical Analysis 25:199-210.
- Solow, A. R., and K. Sherman. 1997. Testing for stability in a predator-prey system. Ecology 78:2624-2627.
- Song, Y. H., and K. L. Heong. 1997. Changing searching responses with temperature of *Cyrtorhinus lividipennis* Reuter (Hemiptera: Miridae) on the eggs of the brown plant hopper, *Nilaparvata lugens* (Stal.) (Homoptera: Delphacidae). Researches in Population Ecology 39:201-206.

- Steel, R. G. D., J. H. Torrie, and D. A. Dickey. 1996. Principles and Procedures of Statistics: A Biometrical Approach. McGraw-Hill Book Company, London, UK.
- Steidl, R. J., C. R. Griffin, and L. J. Niles. 1991. Differential reproductive success of ospreys in New Jersey. Journal of Wildlife Management 55:270-279.
- Steiger, J. H., and R. T. Fouladi. 1997. Noncentrality interval estimation and the evaluation of statistical models. Pages 221-257 in L. L. Harlow, S. A. Muliak, and J. H. Steiger, editors, What If There Were No Significance Tests? Lawrence Erlbaum Associates, Hillsdale, New Jersey, USA.
- Stephens, D. W., and J. R. Krebs. 1986. Foraging Theory. Princeton University Press, Princeton, New Jersey, USA.
- Stevens, J. 1992. Applied Multivariate Statistics for the Social Sciences, 2nd ed. Lawrence Erlbaum, Hillsdale, New Jersey, USA.
- Stevens, J. 1996. Applied multivariate statistics for the social sciences. Lawrence Erlbaum, Mahway, New Jersey, USA.
- Stewart-Oaten, A., W. W. Murdoch, and K. R. Parker. 1986. Environmental impact assessment: "Pseudoreplication" in time. Ecology 67:929-940.
- Stewart-Oaten, A., J. R. Bence, and C. W. Osenberg. 1992. Assessing effects of unreplicated perturbations: No simple solutions. Ecology 73:1396-1404.
- Stigler, S. M. 1986. The History of Statistics. Harvard University Press, Cambridge; Massachusetts, USA.
- Stimson, J. 1985. The effect of shading by the table coral *Acropora lyacinthus* on understory corals. Ecology 66:40-53.
- Stine, R. 1989. An introduction to bootstrap methods: examples and ideas. Sociological Methods and Research 18:243-291.
- Stoffer, D. S., and K. D. Wall. 1991. Bootstrapping state-space models: Gaussian maximum likelihood estimation and the Kalman filter. Journal of the American Statistical Association 86:1024-1033.
- Stokes, M. E., C. S. Davis, and G. G. Koch. 1995. Categorical data analysis using the SAS system. SAS Institute, Inc., Cary, North Carolina, USA.
- Stow, C. A., S. R. Carpenter, K. E. Webster, and T. M. Frost. 1998. Long-term environmental monitoring: some perspectives from lakes. Ecological Applications 8:269-276.

- Strong, D. R., Jr., L. A. Szyska, and D. S. Simberloff. 1979. Tests of community-wide character displacement against null hypotheses. Evolution 33:897-913.
- Suppe, F. 1977. The Structure of Scientific Theories, 2nd ed. University of Illinois Press, Urbana, Illinois, USA.
- Tamura, R. N., L. A. Nelson, and G. C. Naderman. 1988. An investigation on the validity and usefulness of trend analysis for field plot data. Agronomy Journal 80:712-718.
- Tanaka, J. S. 1987. "How big is big enough?": Sample size and goodness of fit in structural equation models with latent variables. Child Development 58:134-146.
- Taylor, B. L., and T. Gerrodette. 1993. The uses of statistical power in conservation biology: the Vaquita and Northern Spotted Owl. Conservation Biology 7:489-500.
- Taylor, D. J., and K. E. Muller. 1995. Computing confidence bounds for power and sample size of the general linear univariate model. American Statistician 49:43-47.
- Taylor, R. J. 1984. Predation. Chapman and Hall, New York, New York, USA.
- ter Braak, C. J. F. 1987. Ordination. Pages 91-173 in R. H. G. Jongman, C. J. F. ter Braak, and O. F. R. van Tongeran, editors, Community and Landscape Ecology. Pudoc Wageningen, The Nertherlands.
- ter Braak, C. J. F. 1988. Partial canonical correspondende analysis. Pages 551-558 in H. H. Bock, editor, Classification and Related Methods of Data Analysis. Elsevier, North Holland.
- ter Braak, C. J. F. 1994. Canonical community ordination. Part I: Basic theory and linear methods. Ecoscience 1:127-140.
- Tessier, A. J., and N. L. Consolatti. 1991. Resource quantity and offspring quality in *Daphnia*. Ecology 72:468-478.
- Thomas, L. 1997. Retrospective power analysis. Conservation Biology 11:276-280.
- Thomas, L., and F. Juanes. 1996. The importance of statistical power analysis: an example from Animal Behaviour. Animal Behaviour 52:856-859.
- Thomas, L., and C. J. Krebs. 1997. A review of statistical power analysis software. Bulletin of the Ecological Society of America 78:128-139.
- Thompson, D. J. 1975. Towards a predator-prey model incorporating age structure: The effects of predator and prey size on the predation of *Daphnia magna* by *Ischnura elegans*. Journal of Animal Ecology 44:907-916.
- Thompson, S. K. 1992. Sampling. John Wiley & Sons, New York, New York, USA.

- Thomson, J. D., G. Weiblen, B. A. Thomson, S. Alfaro, and P. Legendre. 1996. Untangling multiple factors in spatial distributions: lilies, gophers, and rocks. Ecology 77:1698-1715.
- Tibshirani, R. 1992. Bootstrap hypothesis testing. Biometrics 48:969-970.
- Tilman, D. 1987. The importance of the mechanisms of interspecific competition. American Naturalist 129:769-774.
- Tilman, D. 1988. Plant Strategies and the Dynamics and Structure of Plant Communities. Princeton University Press, Princeton, New Jersey, USA.
- Toft, C. A., and P. J. Shea. 1983. Detecting community-wide patterns: estimating power strengthens statistical inference. American Naturalist 122:618-625.
- Trexler, J. C., and J. Travis. 1993. Nontraditional regression analysis. Ecology 74:1629-1637.
- Trexler, J. C., C. E. McCulloch, and J. Travis. 1988. How can the functional response best be determined? Oecologia 76:206-214.
- Tritton, L. M., and J. W. Hornbeck. 1982. Biomass equations for major tree species of the northeast. USDA Forest Service PL Northeastern Forest Experiment Station General Technical Report, NE-69.
- Tufte, E. R. 1983. The Visual Display of Quantitative Information. Graphics Press, Cheshire, UK.
- Tufte, E. R. 1990. Envisioning Information. Graphics Press, Cheshire, UK.
- Tukey, J. W. 1977. Exploratory Data Analysis. Addison-Wesley, Reading, Massachusetts, USA.
- Turlings, T. C. J., J. H. Tumlinson, and W. J. Lewis. 1990. Exploitation of herbivore-induced plant odors by host-seeking parasitic wasps. Science 250:1251-1253.
- Turner, P. R. 1989. Guide to Numerical Analysis. CRC Press, Boca Raton, Florida, USA.
- Turner, T. 1985. Stability of rocky intertidal surfgrass beds: Persistence, preemption and recovery. Ecology 66:83-92.
- Twolan-Strutt, L., and P. A. Keddy. 1996. Above- and belowground competition intensity in two contrasting wetland plant communities. Ecology 77:259-270.
- Underwood, A. J. 1994. On beyond BACI: sampling designs that might reliably detect environmental disturbances. Ecological Applications 4:3-15.
- Underwood, A. J. 1997. Experiments in Ecology: Their Logical Design and Interpretation Using Analysis of Variance. Cambridge University Press, Cambridge, UK.
- Underwood, A. S. 1997. Experiments in Ecology. Cambridge University Press, Cambridge, UK.

- Upton, G. J. G., and B. Fingleton. 1985. Spatial Data Analysis by Example. Volume 1: Point Pattern and Quantitative Data. Wiley, New York, New York, USA.
- van Es, H. M., C. L. van Es, and D. K. Cassel. 1989. Application of regionalized variable theory to large-plot field experiments. Soil Science Society of America Journal 53:1178-1183.
- van Groenendael, J., and P. Slim. 1988. The contrasting dynamics of two populations of *Plantago lanceolata* classified by age and size. Journal of Ecology 76:585-599.
- van Latesteijn, H. C., and R. H. D. Lambeck. 1986. The analysis of monitoring data with the aid of time-series analysis. Environmental Monitoring and Assessment 7:287-297.
- van Lenteren, J. C., and K. Bakker. 1976. Functional responses in invertebrates. Netherlands Journal of Zoology 26:567-572.
- Vaupel, J. W., J. R. Carey, K. Christensen, T. E. Johnson, A. I. Yashin, N. V. Holm, I. A. Iachine, V. Kannisto, A. A. Khazaeli, P. Liedo, V. D. Longo, Y. Zeng, K. G. Manton, and J. W. Curtsinger. 1998. Biodemographic trajectories of longevity. Science 280:855-860.
- Ver Hoef, J. M. 1986. Parametric empirical Bayes methods for ecological applications. Ecological Applications 6:1047-1055.
- Ver Hoef, J. 1993. Universal kriging for ecological data. Pages 447-453 in M. F. Goodchild, B. O. Parks, and L. T. Steyaert, editors, Environmental Modeling with GIS. Oxford University Press, New York, New York, USA.
- Ver Hoef, J. M., N. Cressie, R. N. Fisher, and T. J. Case. 2000. Uncertainty and spatial linear models for ecological data in C. T. Hunsaker, M. F. Goodchild, M. Friedl, and T. J. Case, editors, Uncertainty in Spatial Data for Ecological Analyses. Springer-Verlag, New York, New York, USA.
- Vermunt, J. K. 1997. Log-Linear Models for Event Histories. Sage, Thousand Oaks, California, USA.
- Watras, C. J., and T. M. Frost. 1989. Little Rock Lake (Wisconsin): Perspectives on an experimental ecosystem approach to seepage lake acidification. Archives of Environmental Contamination and Toxicology 18:157-165.
- Watt, A. S. 1947. Pattern and process in the plant community. Journal of Ecology 35:1-22.
- Webster, R. 1985. Quantitative spatial analysis of soil in the field. Advances in Soil Science 3:1-70.
- Wei, W. W. S. 1990. Time Series Analysis: Univariate and Multivariate Methods. Addison-

Wesley, New York, New York, USA.

- Weiner, J., and O. T. Solbrig. 1984. The meaning and measurement of size hierarchies in plant populations. Oecologia 61:334-336.
- Weis, A. E., and A. Kapelinski. 1994. Variable selection on *Eurosta's* gall size. II. A path analysis of the ecological factors behind selection. Evolution 48:734-745.
- Weis, A. E., C. L. Wolfe, and W. L. Gorman. 1989. Genotypic variation and integration in histological features of the goldenrod ball gall. American Journal of Botany 76:1541-1550.
- Weller, D. E. 1987. A reevaluation of the -3/2 power rule of self-thinning. Ecological Monographs 57:23-43.
- Welsh, A. H., A. T. Peterson, and S. A. Altmann. 1988. The fallacy of averages. American Naturalist 132:277-288.
- Werner, E. E., and B. R. Anholt. 1993. Ecological consequences of the tradeoff between growth and mortality rates mediated by foraging activity. American Naturalist 142:242-272.
- Werner, P. A., and H. Caswell. 1977. Population growth rates and age versus stage-distribution models of teasel (*Dipsacus sylvestris* Huds.). Ecology 58:1103-1111.
- Wilkinson, G. N., S. R. Eckert, T. W. Hancock, and O. Mayo. 1983. Nearest neighbor (NN) analysis of field experiments. Journal of the Royal Statistical Society, Series B 45:152-212.
- Williams, F. M. 1980. On understanding predator-prey interactions. Pages 349-376 in D. C. Ellwood, J. N. Hedger, M. J. Latham, L. M. Lynch, and J. H. Slater, editors, Contemporary Microbial Ecology. Academic Press, London, UK.
- Williams, F. M., and S. A. Juliano. 1985. Further difficulties in the analysis of functionalresponse experiments, and a resolution. Canadian Entomologist 117:631-640.
- Williams, F. M., and S. A. Juliano. 1996. Functional responses revisited. Environmental Entomology 25:549-550.
- Wilson, S. D., and D. Tilman. 1995. Competitive responses of eight old-field plant species in four environments. Ecology 76:1159-1180.
- Winer, B. J., D. R. Brown, and K. M. Michaels. 1991. Statistical Principles in Experimental Design. McGraw-Hill, New York, New York, USA.
- Wolf, L. L., and F. R. Hainsworth. 1990. Non-random foraging by hummingbirds: Patterns of movement between *Ipomopsis aggregata* (Pursch) V. Grant inflorescences. Functional Ecology 4:149-158.

- Wolfinger, R. D. 1996. Heterogenous variance-covariance structure for repeated measures. Journal of Agricultural, Biological, and Environmental Statistics 1:205-230.
- Wolfinger, R. D., and M. Chang. 1995. Comparing the SAS GLM and MIXED procedures for repeated measures. Proceeding of the Twentieth Annual SAS Users Group International Conference. (available at www.sas.com).
- Wolfson, L. J., J. B. Kadane, and M. J. Small. 1986. Bayesian environmental policy decisions: two case studies. Ecological Applications 6:1056-1066.
- Wootton, J. T. 1990. Direct and indirect effects of bird predation and excretion on the spatial and temporal patterns of intertidal species. Ph.D. Dissertation. University of Washington, Seattle, Washington, USA.
- Wright, S. 1920. The relative importance of heredity and environment in determining the piebald pattern of guinea pigs. Proceedings of the National Academy of Science 6:320-332.
- Wright, S. 1921. Correlation and causation. Journal of Agricultural Research 20:557-585.
- Wright, S. 1934. The method of path coefficients. Annals of Mathematics and Statistics 5:161-215.
- Wright, S. 1960. Path coefficients and path regression: Alternative or complementary concepts? Biometrics 16:189-202.
- Wright, S. 1983. On "path analysis in genetic epidemiology: A critique.". American Journal of Human Genetics 35:733-756.
- Wu, C. F. J. 1986. Jackknife, bootstrap, and other resampling methods in regression analysis. Annals of Statistics 14:1261-1295.
- Wyckoff, P., and J. S. Clark. 2000. Predicting tree mortality from diameter growth: a comparison of approaches. Canadian Journal of Forest Research in press.
- Yates, F. 1938. The comparative advantages of systematic and randomized arrangements in the design of agricultural and biological experiments. Biometrika 30:444-466.
- Yoccoz, N. G. 1991. Use, overuse, and misuse of significance tests in evolutionary biology and ecology. Bulletin of the Ecological Society of America 72:106-111.
- Young, A. 1994. Bootstrap: more than a stab in the dark? (with discussion). Statistical Science 9:382-415.
- Young, L. J., and J. H. Young. 1991. Alternative view of statistical hypothesis testing. Environmental Entomology 20:1241-1245.

- Yule, G. U. 1912. On the methods of measuring association between two attributes (with discussion). Journal of the Royal Statistical Society 75:579-642.
- Zar, J. H. 1996. Biostatistical Analysis, 3rd ed. Prentice Hall, Upper Saddle River, New Jersey, USA.
- Zerbe, G. O. 1979. Randomization analysis of the completely randomized design extended to growth and response curves. Journal of the American Statistical Association 74:215-221.
- Zimmerman, D. L., and D. A. Harville. 1991. A random field approach to the analysis of fieldplot experiments and other spatial experiments. Biometrics 47:223-239.
- Zimmerman, G. M., H. Goetz, and P. W. Mielke. 1985. Use of an improved statistical method for group comparisons to study effects of prairie fire. Ecology 66:606-611.
- Zumbo, B. D., and A. M. Hubley. 1998. A note on misconceptions concerning prospective and retrospective power. Journal of the Royal Statistical Society Series D 47:385-388.